REPORT BY THE

AUDITOR GENERAL

OF CALIFORNIA

EVALUATION OF CALIFORNIA'S PLANS, POLICIES, AND PROCEDURES FOR DEVELOPING AND MANAGING ITS INFORMATION AND TELECOMMUNICATIONS SYSTEMS

P-611

OCTOBER 1986

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Thomas W. Hayes
Auditor General

October 3, 1986 P-611

Honorable Art Agnos, Chairman
Members, Joint Legislative
Audit Committee
State Capitol, Room 3151
Sacramento, California 95814

Dear Mr. Chairman and Members:

The Office of the Auditor General presents a report prepared under contract by Deloitte Haskins & Sells concerning the adequacy of the State's plans, policies, and procedures for developing and managing its information and telecommunications systems.

Respectfully submitted,

THOMAS W. HAYES
Auditor General

Deloitte
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OFFICE OF THE AUDITOR GENERAL

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SEPTEMBER 19, 1986

CONTRACT AG-C-003-85

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Mr. Thomas W. Hayes
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September 18, 1986

Dear Mr. Hayes:

Attached is our final report covering our evaluation of the plans, policies, and procedures regarding the State's information and telecommunication systems. This report constitutes our final deliverable of contract AG-C-003-85.

If you have any questions, please call me or Allen Koehn at (916) 929-2228.

Sincerely,
DELOITTE HASKINS & SELLS

Edward T. Hilbert
Director

Attachment

OFFICE OF THE AUDITOR GENERAL

TABLE OF CONTENTS

OFFICE OF THE AUDITOR GENERAL

TABLE OF CONTENTS (Cont'd)

EXECUTIVE SUMMARY

Deloitte Haskins & Sells was tasked by the State of California, Office of the Auditor General (OAG), to evaluate the State of California's plans, policies, and procedures for developing and managing its electronic data processing and telecommunications systems, and for acquiring the related goods and services.

The underlying finding of this study is the State now has the opportunity to significantly increase the efficiency, effectiveness, and economy of information and telecommunication systems at the departmental level. By enhancing the current plans, policies, procedures, and resources that manage information and telecommunication procedures in the State, the State can make significant strides towards developing and implementing systems which take advantage of information technology.

We have grouped our findings into five areas:

Definition of Information System, Telecommunications, and Procurement Responsibility - The statutory definition of responsibility between the Office of Information Technology (OIT), the Department of General Services/Department of Telecommunications (DGS/DT), and Department of General Services/Office of Procurement (DGS/OP) has led to inappropriate gaps and overlaps of responsibility between OIT and DGS/DT. The overlaps and gaps of responsibility between OIT and DGS/DT are due to the statutes not clearly stating the roles and responsibilities of each. The effect of these overlaps and gaps is an unclear understanding by the departments of whether OIT or DGS/DT is responsible for certain management actions.

OIT and DGS Fulfillment of Statutory Responsibilities - OIT and DGS generally fulfill their statutory obligations as defined in Government Code. There are some statutory responsibilities they do not fulfill or only the minimum requirements of the law are met. More importantly, however, we found that the statutes are not comprehensive and lack performance goals for OIT and, thus, make it difficult to measure the success of OIT. This creates the perception by user departments that OIT lacks a clear mission.

Cost-Effective Use of State Resources - The lack of statewide information system strategic planning may lead to less long-term efficient utilization of State resources. We found that information system and telecommunications policies and operational plans generally promote the cost-effective use of State resources. However, we found that certain OIT control procedures are cumbersome and are causing unnecessary delays in information and telecommunications projects.

Competition and Expeditious Processing - We found that the statutes which govern the acquisition of information systems and telecommunications promote more than adequate competition. We also found that procurements were generally processed by DGS/OP in an expeditious manner. More importantly, however, we concluded that the State procurement practices are not sufficiently flexible for the changing needs of a large applications software development project. As a result, there is a high potential that software development projects, which are contracted with an outside entity, may be over budget, delivered late, and marginally meet user requirements for the new system. Based on our national experience with government related procurements, we believe software development projects are the fastest growing procurement area.

Staff and Experience Levels - We found that the experience levels at DGS/DT and DGS/OP to be appropriate; however, a moderate number of additional staff are needed. The experience levels and number of staff at OIT are significantly inadequate to effectively perform the duties required by law and sound management practices. Inadequate staffing at OIT and its predecessor organizations has been due historically to the continual pressure by the Department of Finance and the mood of this and previous administrations to keep staff level growth within the State to a minimum. The result is certain management plans and policies that are neglected and poor service is perceived by the departments.

I. INTRODUCTION

In this section, we discuss the:

- Scope of our work
- Approach we used
- Background and context of this study
- Objective of this report

SCOPE OF OUR WORK

Deloitte Haskins & Sells (DH&S) was tasked by the State of California, Office of the Auditor General (OAG) to evaluate the State of California's plans, policies, and procedures for developing and managing its information system (IS) and telecommunications (TC) systems, and for acquiring the related goods and services. The OAG specifically outlined five objectives of this study:

- Determine whether the State's organization to develop plans, policies, and procedures for the development of IS and TC systems and the acquisition of IS and TC goods and services has resulted in any unsatisfactory gaps or overlaps of responsibility among State agencies.

- Determine whether the Department of Finance's (DOF) Office of Information Technology (OIT) and the Department of General Services (DGS) are effectively fulfilling their statutory responsibilities, as specified in Government Code Sections 11700 through 11734, Sections 15250 through 15275, and Public Contracts Code Sections 12100 through 12121.

- Determine whether State plans, policies, and procedures regarding the development of IS and TC systems ensure the most cost-effective use of State resources.

- Determine whether State policies and procedures for the acquisition of IS and TC goods and services ensure adequate competition and expeditious processing.

- Determine whether OIT, DGS/Department of Telecommunications (DGS/DT), and DGS/Office of Procurement (DGS/OP) have a sufficient number of staff with the appropriate expertise to adequately perform their responsibilities.

THE APPROACH WE USED

To conduct this study, we:

- Interviewed State personnel from:
  - .. Department of Fish and Game
  - .. Department of Banking
  - .. Franchise Tax Board
  - .. Teale Data Center
  - .. Office of Information Technology
  - .. Department of General Services
  - .. Department of General Services/Department of Telecommunications
  - .. Department of General Services/Office of Procurement

- Reviewed multiple statute, policy, and procedure documents at the State (OIT and DGS) and departmental levels

- Identified issues (inadequate, inappropriate, inefficient, or unsatisfactory conditions)

- Analyzed issues as to their impact on the State

- Developed recommendations which will correct the issues

Appendices A and B have a detailed listing of all personnel interviewed and documents reviewed.

While interviewing and reviewing State records, we:

- Observed the use of information and telecommunications systems plans, policies, and procedures

- Identified deficiencies in State policies and procedures

- Examined the departments' use of delegated procurement authority

- Identified uneconomical use of State resources

- Determined whether all appropriate agencies are involved in policy setting and whether the policies provide State agencies with adequate direction.

When we identified any inadequate, inappropriate, inefficient, or unsatisfactory conditions, we documented the:

- Extent of the problem
- Criteria used to determine that a problem exists
- Cause of the problem
- Adverse effects to the State
- Cost implications (if practicably identifiable)

To accomplish this study, we utilized an eight-task work plan:

- Task 1 - Project Administration

- Task 2 - Identify High Level Issues Through the Use of a DH&S Senior Executive Review Team (SERT)

- Task 3 - Research History and Background of this Study

- Task 4 - Identify Management Processes and Associated Issues

- Task 5 - Assess Use of State Information System (IS) and Telecommunication (TC) Processes

- Task 6 - Analyze Impact of Identified Issues

- Task 7 - Develop Recommendations

- Task 8 - Develop Report

BACKGROUND AND CONTEXT OF THIS STUDY

Background [1/]

The State of California spends a considerable amount of money on a wide array of information and telecommunications systems. During fiscal year 1984-85, the State of California reportedly spent approximately $135 million on information systems (IS) and approximately $15 million on telecommunications (TC). The State has two large general purpose data centers with annual operating costs that exceed $5 million each. One data center's annual costs exceed $53 million. Further, the State manages over 15,000 computer terminals, owns or rents approximately 240,000 telephones servicing 155 agencies, and operates 41 multi-agency Centrex systems. Finally, the State owns a microwave system used by 15 public safety agencies.

The responsibility for statewide planning and policymaking for information systems and telecommunications is shared by two State agencies: The Office of Information Technology (OIT) within the Department of Finance, and the Department of Telecommunications (DT) within the Department of General Services. State law (AB 2074, Farr, 1983) defines information technology as the handling of information by computer and related automation, including systems design and analysis; programming; information storage and retrieval; voice, video, and data communications; simulation; and all related interactions between people and machines.

1/ Source: The May 21, 1986 Oversight Hearing by the Assembly Committee on Utilities and Commerce of the State Management of Telecommunications and Information Resources

Information Resource Policy - Government Code Sections 11700-11734 define the responsibilities of the Director of OIT. These responsibilities include developing plans and policies to support and promote the use of innovative information technologies within State government, advocating the State's use of information technology, adopting policies and guidelines to carry out information systems budgeting, and approving proposed expenditures for information systems. The law further states that the Director shall develop plans and policies regarding State data centers, information management personnel, telecommunications, office automation, teleconferencing, and emergency communications. To carry out this mandate, OIT employs twenty-four staff, consisting of two people for management, thirteen people for oversight, four people for telecommunications, three people for planning, and two for clerical.

The policies and procedures that OIT has developed are published in the "Strategic Implementation Plan" of November 1984, and in Sections 4800-5178 of the State Administrative Manual (SAM). Sections 4901-4908.1 of SAM list the policies and procedures agencies must follow in developing their Information Management Annual Plan (IMAP). In addition, Sections 4921-4928 list the policies and guidelines departments should follow to develop a feasibility study report (FSR) for each proposed information systems project. Further, Sections 4931-4935 outline procedures departments should follow to prepare progress reports for each project in progress. Other policies and procedures established in the manual deal with personnel management, the security of facilities, the security of data, the management of data centers, and personal computers. Over the years, a number of differently organized committees of department representatives have been appointed to advise the Director of OIT regarding the applicability of State information system policies.

In addition to developing policies and procedures, OIT is responsible for reviewing plans for information systems, FSRs, budget change proposals (BCPs), and project evaluation reports (PERs). Departments that anticipate spending funds for information technology must submit an IMAP to OIT. The plan should identify information needs and include a listing of potential projects to meet those needs. OIT's procedure is to review each department's plan to ensure that the department has identified its information requirements and has developed objectives to implement the plan. OIT evaluates the projects listed in the plan and approves the projects a department can continue to study and develop. During calendar year 1985, OIT reviewed 190 plans and anticipates that it will review 200 during calendar year 1986. The IMAP planning requirements were recently developed and implemented for fiscal year 1986-87. The IMAP replaced the current Information System Plan.

If a department needs a budget increase to proceed with the projects in its plan, the department submits a BCP to DOF. OIT is responsible for reviewing the proposal and assessing its technical feasibility, comparing costs and benefits, and determining if the proposal conforms with the department's IMAP. OIT submits its analysis of the proposal, including recommendations, to the appropriate Department of Finance Budget Manager. The Budget Manager is then responsible for the final analysis of the BCP and inclusion into the annual budget process. During calendar year 1985, OIT evaluated 326 BCPs and estimates that it will evaluate approximately the same number in calendar year 1986.

For each new proposed information technology project, departments normally must submit an FSR to OIT that provides a standard approach to analyzing the department's information

needs. Depending upon the cost and complexity of a project, as well as other factors, OIT may delegate the approval of the FSR to a department's director. All projects must have an approved FSR before departments can begin to procure any goods and services for the project. The FSR should identify the purpose and objectives of the project, and it should include a recommended solution to the department's information needs. OIT reviews the FSR to determine whether the project is technically sound and to ensure adherence to statewide plans regarding information technology. During calendar year 1985, OIT evaluated 109 FSRs and predicts that it will review 142 during calendar year 1986, an increase of more than 30 percent.

Telecommunications Policy - State law authorizes OIT to develop plans and policies for TC, but OIT generally relies upon DGS/DT to perform those responsibilities. To clarify the responsibilities of the two offices, DOF and DGS issued "Management Memo 84-24" (November 1984) designating DGS/DT as the "lead office" for the overall management of TC and TC planning within State government. In addition, Government Code Section 12931, authorized DGS to acquire, install, equip, maintain, and operate new or existing communication systems and facilities and to make these systems available to State agencies. DGS/DT employs a larger staff than OIT but relies heavily on a policy-level professional staff of approximately one dozen.

In keeping with responsibilities defined by Government Code Section 11700, OIT, with participation by DGS/DT, published the "Telecommunications Strategies for State Government" in April 1984. The Legislature did not review this document, and its recommendations were not incorporated in the State budget for fiscal year 1984-85. A subsequent document is now in

preparation by an outside consultant. In addition, DGS/DT has developed policies and procedures for TC systems in the State. These policies and procedures for TC planning and management are contained in SAM Sections 4500-4585.1. For example, Section 4510 requires departments to submit a five-year operational plan to DGS/DT. This plan should describe the department's existing communications systems and project its requirements for new or expanded systems within the next five years. Sections 4520-4539 of SAM outline the procedures that departments should follow to request telephone equipment and services. DGS/DT reviews these requests and recommends technical, cost-effective solutions. In addition, DGS/DT is to assist departments in developing specifications for procuring other types of telecommunications goods and services. After the specifications have been developed and DGS/DT has approved them, the specifications are sent to the EDP Procurement Unit within the DGS/OP.

In response to a commonly perceived need for greater training and awareness among department directors and managers, DGS/DT has inaugurated a TC policy and planning curriculum for State department directors and managers. The classes are offered by private corporations and universities throughout California and, in a few cases, outside the State.

DGS/DT is also responsible for representing State agencies and jurisdictions before the Public Utilities Commission, the Federal Communications Commission, and other regulatory agencies which set State and national regulatory policy. Through the State's own telecommunications network (ATSS), DGS/DT also provides telephone service to several local jurisdictions.

Statutory Coordination - Public Contracts Code Section 12105 requires DGS and DOF to coordinate the development of policies and procedures to provide expeditious and cost-effective acquisition of IS and TC systems within a competitive environment. In addition, Section 12120 of the Public Contracts Code requires DGS to establish tactical policies and procedures for TC and IS acquisitions consistent with statewide strategic policy as established by DOF. The code specifies that tactical policy means the policies of an organization necessary to direct its operational staff in carrying out their day-to-day activities. Strategic policy means policy which defines the goals and objectives for an organization. Furthermore, the Public Contracts Code requires DGS to supervise all contracts for the acquisition of TC good and services, and requires that the procurement of these goods and services be accomplished in accordance with Sections 5200-5216.95 of the SAM.

The EDP Procurement Unit within DGS/OP is responsible for the procurement of all IS assets of the State. DGS has delegated to certain State departments limited authority to procure certain of these goods and services without the approval of DGS/OP.

Other Departments - DGS also houses the Office of Management Technology (OMT). OMT was created to manage the considerable IS assets of DGS. Recently, OMT has assisted other departments in determining their information needs, presumably for incorporation in the department's FSRs. OMT also supervises the State's new "computer store," to be operated by Businessland Computers. Managers of agencies will be able to test equipment on display at the computer store and order IS equipment in bulk and at discount.

The Teale Data Center, an independent department within the Business and Transportation Agency, also provides advice to State agencies, besides providing information system services.

Context

In a study of this nature, it is always difficult to determine which standard the agencies being reviewed should be measured against. They can be measured against:

- The practices and performance of similar agencies in other states
- The performance of previous administrations at OIT and DGS
- The statutes and State Administrative Manual policy
- What sound business practices would normally require

From our experience of consulting with the other states, we have found that California is highly respected for their advanced use of IS and TC systems. However, the scope of this study did not allow for a direct comparison with other states.

While we believe there have been significant gains since AB 2074 became effective in 1984, comparing the performance of the current OIT and DGS plans, policies, and procedures to previous plans, policies, and procedures will not point out if further enhancements are required.

Comparing the current plans, policies, and procedures to the intent and requirements of current statutes and SAM policy is helpful in that it is a measure of how effective the current

plans, policies, and procedures have been. This comparison automatically points out areas where OIT and DGS need to enhance their performance of plans, policies, and procedures in order to meet the intent of statute and policy. This comparison can also identify any overlaps of responsibilities between OIT and DGS. What this comparison does not identify is if there are gaps in the law and if the law is appropriate to begin with.

Measuring the current plans, policies, and procedures against prudent business practices allows further insight into how efficient, effective, and economical the plans, policies, and procedures really are. This measurement has no restrictive bounds (as measuring against previous administrations and current laws and policies does) and leads to better ways for managing IS and TC systems in the State.

In the context of this report, "business practices" are defined as the plans, policies, and procedures which strive to efficiently, effectively, and economically manage an organization. "Business" is not meant to refer to private sector business practices which have the goal of making a profit.

It is in the context of "prudent business practices" that we conducted this study. In this context we could ask the question, "Even though the plans, policies, and procedures are better than they were before AB 2074; and even though the plans, policies, and procedures generally measure up to the intent of the statutes and SAM; is there a more efficient, effective, and economical way of managing IS and TC systems within the State?"

It is also important in a study of this nature to understand the progress that has occurred since AB 2074 took effect in 1984. Specifically:

- The number of FSRs approved increased from 74 to 142 (estimated for calendar year 1986)

- The number of BCPs processed increased from 194 to 326 (estimated for calendar year 1986) with the dollar amount increasing from $126 million to and estimated $400 million ($215 million was spent through July 1)

- The number of IS and TC procurements in excess of $100,000 increased from 35 in FY85 to an estimated 60 for FY87

- A new information management annual planning process was instituted to encourage departments to conduct long-range information system planning

The above information was reported to us by OIT and DGS/OP.

While California's plans, policies, and procedures for managing IS and TC systems need certain enhancements (discussed in this report), the progress noted above shows that the plans, policies, and procedures are generally working.

OBJECTIVE OF THIS REPORT

The objective of this report is to discuss the findings, conclusions, and recommendations that resulted from our study. In our view, that State has made many positive enhancements to the plans, policies, and procedures that govern IS and TC systems within the State in the past few years. We believe that the State is now on the threshold of significantly increasing the efficiency, effectiveness, and economy of its IS and TC systems; therefore, the State must respond with enhanced plans, policies, and procedures to channel and lead the agencies into sound IS and TC management practices. This report recommends actions which, if fully implemented, should assist the State in enhancing their plans, policies, and procedures.

We have divided this report into the five study objective areas discussed previously:

- Section II - Definition of Information System, Telecommunications, and Procurement Responsibility
- Section III - OIT and DGS Fulfillment of Statutory Responsibilities
- Section IV - Cost-Effective Use of State Resources
- Section V - Competition and Expeditious Processing
- Section VI - Staff and Experience Levels

During the course of discussion in this report, we will continually refer to three different organizational levels within the State. The three levels and their meanings are:

- "Statewide" or "State" level - an organization, such as OIT, DGS/DT, or DGS/OP, which has responsibilities for servicing and controlling all State executive organizations

- "Agency" level - an organization, such as the Health and Welfare Agency, which has responsibilities for many organizations of similar missions

- "Department" level - an organization that is responsible for conducting a legislatively-mandated program

II. DEFINITION OF INFORMATION SYSTEM, TELECOMMUNICATIONS, AND PROCUREMENT RESPONSIBILITY

The statutory definition of responsibility between OIT, DGS/DT, and DGS/OP has led to inappropriate gaps and overlaps of responsibility between OIT and DGS/DT. The overlaps and gaps of responsibility between OIT and DGS/DT are due to the statutes not clearly stating the roles and responsibilities of each. The effect of these overlaps and gaps is an unclear understanding by the departments of whether OIT or DGS/DT is responsible for certain management actions.

FINDINGS

We found that:

- There is an overlap of responsibility in the statutes between OIT and DGS/DT for developing and instituting TC plans, policies, and procedures

- There is a gap in the statutes for identifying and assigning responsibility for many TC functions

Each finding is discussed in detail below.

There is an Overlap of Responsibility in the Statutes Between OIT and DGS/DT for Developing and Instituting TC Plans, Policies, and Procedures

OIT is charged with developing and instituting plans, policies, and procedures as they relate to the development and implementation of efficient, effective, and economical TC systems (Government Code Section 11700). TC is defined as

voice, video, and data. OIT is also given responsibility for developing plans and policies regarding:

- The coordination of TC procurements and pricing of TC services

- Teleconferencing as an alternative to State travel

- Emergency communications

DGS/DT is given the responsibility to acquire, install, equip, maintain, and operate new or existing communications systems and facilities (Government Code Section 14931). To accomplish that purpose, DGS/DT may:

> "Enter into contracts, acquire property, install necessary equipment and facilities, and do such other acts as will provide adequate and efficient communications systems."

The original intent of Government Code Section 14931 was to take the responsibility of installing and operating microwave networks from the departments and give it to a State level organization who would ensure a compatible system was available to departments. In this context, there is not an overlap in the statutes between OIT and DGS/DT.

However, in recent years, the State has taken an ever increasing role in managing its TC resources. Specifically:

- The divestiture of AT&T has forced the State to become more responsible for the planning and management of all voice and some data communications facilities and networks

- There has been a continually increasing demand for providing information system related data communications

- There are new technologies (such as local area networks) and uses for old technologies (such as video) which will have increased demand

In this context, we have interpreted the general wording of Government Code Section 14931 stated above to mean that DGS/DT should also be responsible for the installation, operation, planning, and management of, at least, these three new State TC responsibilities. This interpretation is a direct overlap with OIT's responsibilities.

The cause of this overlap of responsibility is due to the lack of a statute that clearly defines what State organization has sole responsibility for TC. The statutes have not been updated since the AT&T divestiture and do not include the new TC responsibilities the State had to absorb.

The effect of this overlap of responsibility is that it is not always clear to OIT, DGS/DT, user departments, and the Legislature who has sole responsibility for TC, and what State organization is currently responsible for what portion of TC. See the next finding for a discussion of Management Memo 84-24 which attempted to clarify responsibilities between OIT, DGS/DT, and user departments.

<u>There is a Gap in the Statutes for Identifying and Assigning Responsibilities for Many TC Functions</u>

There are five TC areas that the current statutes (Government Code Section 11700, 14931, 15250) refer to that the State is

responsible for providing and managing:

- Voice - telephone service

- Data - communicating IS and system software related data between computers, between terminal type devices, and between computers and terminal type devices

- Microwave networks - an alternate technology for transmitting voice and data over long distances

- Radio - used for services, such as police and fire

- Video - one-way or interactive television used for areas, such as training and teleconferencing

Only two of the above areas are specifically discussed in the statute relative to the plans, policies, procedures, and operation of the service. These areas are radio and microwave, as defined in Government Code Section 14931 and 15250. While voice, data, and video are mentioned in 11700 as part of OIT's responsibility, nothing is mentioned in statute about the responsibilities associated with providing and managing voice, data, and video service. Statute is silent on what organization should provide and manage these three services. We believe this is a significant gap of responsibility.

Because DGS/DT appears to have responsibility for statewide TC services (no statute gave them this responsibility, but they have this responsibility in practice), and OIT has statutory responsibility for developing TC policies, procedures, and strategic TC plans, it was not clear where the division of responsibility between OIT and DGS/DT should be drawn. As a

result, the Directors of DGS and DOF jointly issued Management Memo 84-24 to clarify the TC responsibilities of DGS/DT, OIT, and State departments. The memo also was to provide guidance to State departments when developing TC projects. However, we found that the memo did not specifically assign total responsibility for TC to one single State organization.

As stated in Management Memo 84-24, DGS/DT is responsible for:

- Developing standards for TC systems.

- Providing TC transmission services for State agencies.

- Providing overall management of TC and TC planning within State government. This includes voice, video, and data transmissions, and the design and maintenance of public safety radio systems.

- Coordinating an ongoing planning process with OIT and interested user departments.

- Updating the State's TC plan, "Telecommunications Strategy for State Government".

- Assisting departments in developing TC systems.

As stated in Management Memo 84-24, OIT is responsible for:

- Reviewing TC projects submitted as part of the IMAP process and advocating their inclusion in the Governor's Budget

- Reviewing budget change proposals for projects included in the IMAP to ensure that departments take advantage of TC strategies

- Reviewing and processing, for budget consistency, requests for TC services which exceed $75,000 that have been approved by DGS/DT

- Participating in TC activities as they impact information technology concerns

- Conducting special studies which involve TC such as public access to State data, local area networking, and disaster recovery plans for State data processing

Management Memo 84-24 instructed the departments to include TC projects in the IMAP submitted to OIT and to request TC services from DGS/DT. This was a new responsibility for departments.

Management Memo 84-24 attempted to define the responsibilities between OIT and DGS/DT by placing the majority of TC requirements and responsibilities in DGS/DT. However, OIT still retained the right to conduct TC related activities and projects instead of passing all responsibility to DGS/DT. For example, OIT has been involved with data communications (data communications defined as transferring of functional data and system data between computers and terminal type devices) since it is so closely related to IS. As a result, departments perceive OIT or the data centers as the responsible State-level control agency for data communications, not DGS/DT.

The cause of the gap of responsibility is, again, because the statutes have not been enhanced since the divestiture of AT&T in 1984. Before divestiture, the State had limited responsibility for voice and data communications because AT&T was the major provider of service. AT&T also managed most of

the service they provided. Since divestiture, the State had to take total responsibility for TC because it was now possible to acquire TC capabilities from various companies. With this responsibility came the ability to purchase, install, and manage State-owned voice and data communication systems. What did not emerge with these new responsibilities were statutes which specifically defined what organization is responsible for all TC services and what the specific duties and responsibilities of this organization should be for providing and managing these services.

Management Memo 84-24 adds to this gap of statutory responsibility because it is not clear as to which organization has full responsibility for TC. In our view, the memo was unclear because the statutes it was trying to clarify are inadequate as discussed in the previous paragraph. A management memo cannot solve problems with the statutes because the statutes themselves cannot be changed by a management memo.

The effect of this statutory gap of responsibility is that there is no assurance and no method of measuring if voice, data, and video services are provided and managed in an efficient, effective, and economical manner. There is also no assurance that TC strategies are being developed to meet future needs and take advantage of new and better technology.

Additional confusion will continue as to which department is fully responsible for TC. In addition, data communication needs, relative to information systems, may continue to be addressed by individual departments instead of a planned statewide direction and architecture.

CONCLUSION

In our view, there is no department that is solely responsible for providing and managing TC functions for the State. The current definition of responsibilities between OIT and DGS/DT is functioning in practice, but not at a level that ensures efficient, effective, and economical use of TC systems.

As the technology of TC changes and the integration of voice, data, and video merge and become more available to the end user, the demand for TC services and connectivity will spiral upward. We believe that the current system of multiple laws and multiple control agencies (DGS/DT and OIT) will not meet the needs of the State as the demand for TC services continues to expand.

RECOMMENDATIONS

We have developed two recommendations which, in our view, will clearly delineate responsibilities between OIT and DGS/DT:

- Assign DGS/DT sole responsibility for the planning and management of TC service

- Maintain OIT's role as fiscal control of TC

Recommendation II-1 - Assign DGS/DT Sole Responsibility for the Planning and Management of TC Services

All functions and responsibilities relative to offering TC service in the State should be consolidated by statute into one department, specifically DGS/DT. It is important to note that the role of DGS/DT is to provide TC services and their goal should be to provide those services in an efficient, effective, and economical manner. Therefore, all plans, policies, and procedures relative to providing TC service should be the responsibility of DGS/DT. Specifically, their responsibilities should include:

- Servicing of TC needs as identified by departments and OIT.

- Operating State networks.

- Planning relative to the offering of TC services.

- Conducting appropriate TC projects in order to provide needed service.

- Supplying technical expertise to departments who are either undertaking or planning a TC project.

- Maintaining oversight and control of delegated TC projects.

- Developing policies and procedures for offering TC service.

- Developing TC strategies for meeting TC needs identified by users and OIT (see Section III for a discussion of strategic planning).

- Submitting all TC strategies to OIT for review to ensure they are in concert with statewide IS strategic plans (see Section III for a discussion of OIT's role in information system strategic planning). DGS/DT should not continue with TC strategies relative to IS until OIT and DGS/DT are in agreement that the TC strategies will meet IS data communication needs.

DGS/DT should still submit an IMAP and information system related FSRs to OIT for review and approval. We believe this practice should continue since OIT is responsible for information systems.

These responsibilities are very similar to what DGS/DT is actually performing today. We are recommending the statutes be changed by the Legislature to specifically include them.

We recommend the following management action plan for implementing this recommendation:

- The Legislature should develop and pass legislation which specifically gives DGS/DT the TC responsibilities discussed above. DGS and OIT should work closely with the Legislature in developing this law. The legislation must cover all aspects of telecommunications (voice, video, data, radio,

microwave) and should include or completely replace current statutes relative to the planning, management, and operation of telecommunications (Government Code Section 15250 et seq., 14930 et seq.). The law should clearly state what the role, responsibilities, and performance goals of DGS/DT should be.

- DGS/DT should update the SAM to reflect the above changes in the law.

Recommendation II-2 - Maintain OIT's Role as Fiscal Control of TC

OIT should act as they are today as a technical advisor and advocate of TC projects to the DOF budget process and have control authority of specific TC projects which are IS related. DOF should use OIT as a check-and-balance or second opinion of proposed TC projects that have been submitted for funding. OIT should have no responsibilities for the planning and management of TC; OIT, through its advisory and control role, simply should ensure State funds are supporting worthwhile TC projects. This will allow DGS/DT the flexibility to plan and manage TC, but still provide for DOF fiscal responsibility without adding another review process.

OIT's specific responsibilities relative to TC should be:

- Continue to review DGS/DT IMAPs and determine OIT's oversight responsibilities for TC projects which are IS related.

- Identify and support uses of TC in the State as they relate to information systems.

- Continue to review TC FSRs which are IS related and when requested by DOF.

- Review DGS/DT TC strategies to ensure they are in concert with IS strategic plans and meet IS data communication needs. Once the two plans are in coordination, OIT should formally approve the TC strategies (see Section III for a discussion of strategic planning).

To implement this recommendation, the following management actions should occur:

- Government Code Section 11700 et seq., should be modified by the Legislature to remove the responsibility of TC services from OIT. Specifically:
  - 11702 (a) should be modified to take out "voice, video, and data communications"
  - 11712 (c), (e), and (f) should be deleted

- The SAM should be modified by OIT to reflect the above changes.

III. OIT AND DGS FULFILLMENT OF STATUTORY RESPONSIBILITIES

OIT and DGS generally fulfill most of their statutory obligations, as defined in Government Code Section 11700 et seq., Sections 15250 et seq., and Public Contracts, Code 12100 and 12121. There are some statutory responsibilities they do not fulfill or only the minimum requirements of the law are met. More importantly, however, we found that the statutes are not comprehensive and lack performance goals for OIT and, thus, make it difficult to measure the success of OIT. This creates the perception by user departments that OIT lacks a clear mission.

FINDINGS

We found that:

- The IS and TC strategic planning process at the State level is inadequate
- Department level planning for IS and TC is inadequate
- There is a lack of proactive advocacy
- OIT has not audited compliance of the personal computer policy
- DGS/DT has not audited delegated TC projects
- There are no periodic reviews of operational IS and TC systems
- DGS/OP has not audited delegated procurements

- Portions of the SAM Section 4500, Telecommunications Policy, are not current

- User involvement in setting IS and TC policy appears to be adequate

Each finding is discussed below.

The IS and TC Strategic Planning Process at the State Level is Inadequate

Government Code Section 11701 requires OIT to conduct IS planning:

> "It is the intent of the Legislature: ...
> (c) That there be plans for enhancing the use of information technology within State government, encompassing both short-term and long-range needs and that these plans be continually updated;
> (d) That the plans provide for optimum utilization of information technology equipment; maximum practical integration of information technology systems; the establishment of service centers, as required, to provide data processing services to units of State government, as needed; adherence to standards ensuring appropriate compatibility of systems and interchange of data and information; and proper management controls to ensure the most efficient, effective, and economical use of the State's resources for information technology."

DGS/DT is responsible for developing TC strategies to meet TC needs at the department and State levels. See Section II for a discussion of DGS/DT's planning responsibilities.

Planning for IS and TC requires two separate processes and disciplines:

- Strategic Planning - Strategic plans for IS and TC have a long planning horizon (typically five years), are strategic in nature (i.e., they deal with general direction, major initiatives, and approximations of resource requirements), and are derived from and support organizational business goals.

- Operational Planning - Operational plans have a short planning horizon (either one or two years), are tactical in nature (i.e., they deal with specific projects, programs, and precise resource requirements), and are used as input to help derive organizational budgets and annual objectives.

Ideally, the strategic planning process provides for an annual update procedure to maintain the planning horizon and to "drop down" next year's strategic goals into the operational planning process for expanded definition. Both processes should produce formal documents.

Ideally, strategic plans should set the general direction the departments should be moving towards with their IS and TC systems. Operational planning should be a partial outgrowth of strategic plans as well as an outgrowth of department requirements as documented in the IMAPs. The department level plans should also consider the State's strategic plan. The planning process is portrayed in Exhibit III-1.

In our view, both OIT and DGS/DT conduct adequate operational planning as is witnessed by services offered and projects conducted. However, neither OIT nor DGS/DT has a current

strategic plan; OIT has a Strategic Implementation Plan developed in 1984, which includes a TC strategic plan, and DGS/DT is currently developing a strategic plan.

The Strategic Implementation Plan was in direct response to the 1983 OLA report (The Utilization and Management of Information Processing Technology in California State Government) and Government Code Section 11700 both which require a strategic plan. Since it was completed in response to the Legislature in a very short time, it lacks the depth and forethought required to make it a comprehensive strategic plan. It is in reality an operational or short-range plan. For example:

- The Summary discusses how OIT has fulfilled the requirements of Government Code Section 11700.

- Section I does nothing but restate OIT responsibilities, as described in Government Code Section 11700, and provide history of past events.

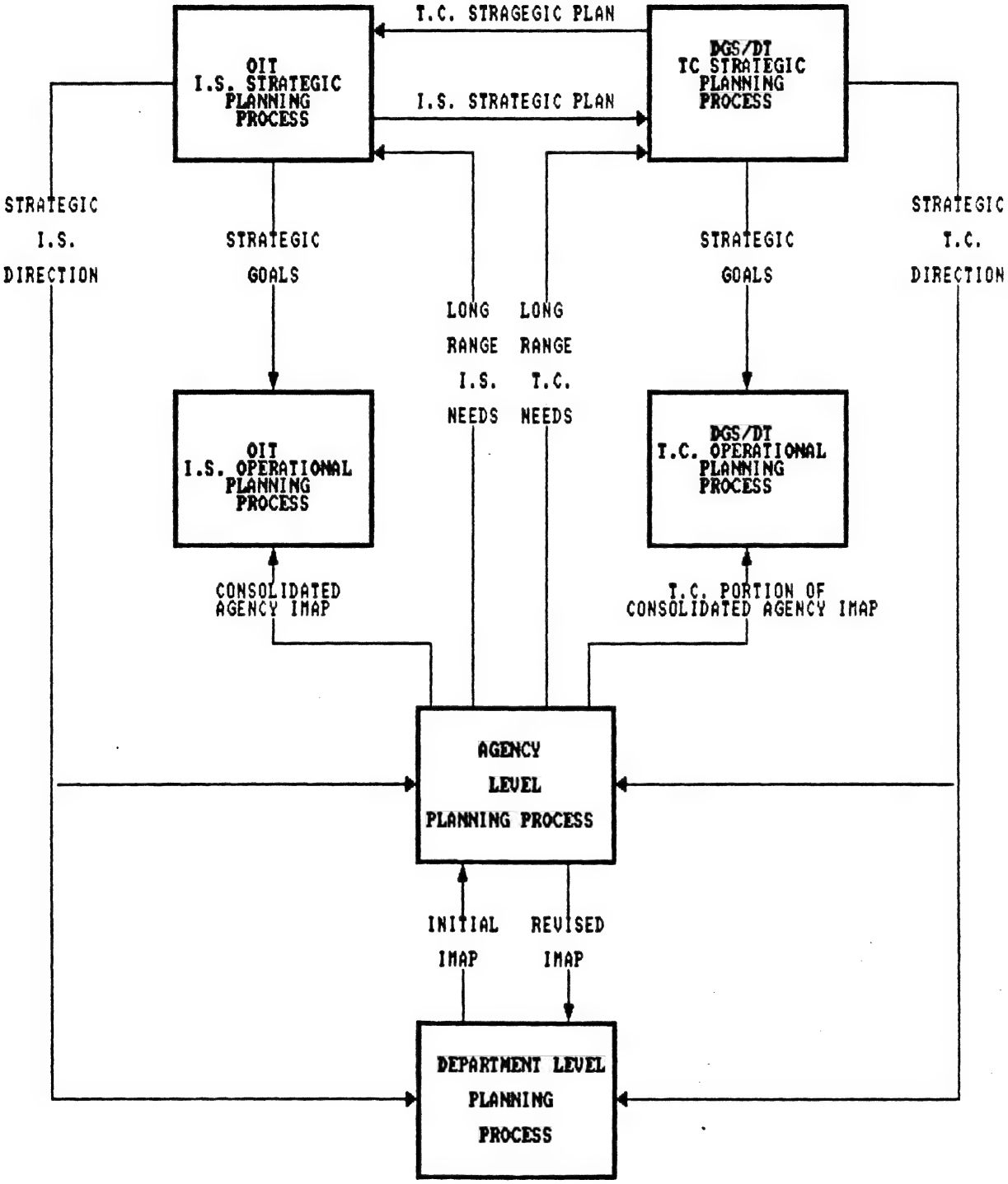
- Section II, again, discusses how OIT has fulfilled the requirements of Government Code Section 11700 and restates academic issues and elementary business concepts. It provides only limited guidance and limited high-level strategic direction, and focuses mostly on projects that OIT was to address during the current year (1985), but, again, it is projects not strategic direction.

- Section II is also a collection of documentation to indicate what projects they are currently are working.

The plan fulfills the requirement established by Government Code 11700 to have a strategic document by November 1985, but

EXHIBIT III-1

STATE PLANNING MODEL



is lacking substance as a strategic plan and shows little evidence of following a formal strategic planning process.

In our view, IS and TC strategic plans are currently inadequate because there is no formal strategic planning process that is part of policy and required on an annual basis. Lack of staff has also made it difficult to conduct strategic planning.

The lack of a strategic plan and high-level guidance could allow the departments (especially the departments with limited technical talent) to develop plans and projects that may be limited in scope, use technology unwisely, and not be in the best interest of the unified goals of the State. The lack of a strategic plan may cause the future IS and TC needs of the State not to be met on a timely basis. Without a strategic plan, there is no assurance the State will be constantly moving towards more efficient, effective, and economical IS and TC systems.

Department Level Planning for IS and TC is Inadequate

OIT has successfully established an operational planning process in the State through the exercise of its control authority via the Information Management Annual Plan (IMAP) process. We believe this is an appropriate step towards ensuring departments are conducting IS and TC planning. However, the IMAP process assumes the existence of a department level strategic plan which produces a partial operational plan (IMAP) for OIT's review.

Many departments conduct adequate IS and TC planning and simply take the output of their planning process and phrase it into the IMAP format. Other departments, usually less sophisticated

and smaller, do not conduct adequate IS and TC planning and view the IMAP as another reporting requirement and, thus, more of a hindrance than a help.

The intent of the IMAP is to try to encourage all departments to engage in some form of IS planning. For those who already conduct IS planning, it is not a problem; for those who do not, it is perceived as another control agency requirement.

Currently, TC planning by the departments is not conducted and reported to DGS/DT in a consistent manner. The type of plans submitted and planning methodology varies significantly by type of service the department needs (voice, data, video, radio, or microwave), size of the project, and size of the department. SAM 4510 requires each department utilizing radio/microwave or dedicated facilities to file a five-year plan and update it yearly to DGS/DT. SAM does not specifically require departments with other TC needs to submit five-year plans. Much of the TC planning in smaller departments appears to be an informal process between the department and DGS/DT. Refer to Exhibit III-1 for an understanding of how TC planning fits into the State planning model.

In our view, the major cause of inadequate planning is the inability of many departments to develop useful IS and TC strategic and operational plans. IS and TC planning has not been made an integral part of the departments' program planning.

The effect of not having adequate IS and TC plans at the department level is that the business goals of the departments may be impacted if the IS and TC portion of planning is not accomplished. Inadequate IS and TC planning will also affect DGS/DT and OIT by not being able to intelligently plan for

additional workload, thus additional IS and TC capabilities may not be available at a reasonable cost when needed.

There is a Lack of Proactive Advocacy

OIT has been tasked with the role as the State's advocate for Information Technology. The following is a definition of the specific responsibilities associated with this role, as stated in Government Code Sections 11700 and 11730:

> "... to improve productivity and service to clients, and to assist agencies in designing and implementing the use of information technology."

> "... It is the intent of the Legislature that the director (of OIT) shall be the State's advocate in the exploitation of information technology to increase the effectiveness and efficiency of government electronic data processing services in program and support areas. The office shall adopt procedures to carry out its advocacy role and shall publish and maintain them in the State Administrative Manual."

We have determined that the term "advocacy" can be divided into three functions or action areas:

- Assist a department as a catalyst when dealing with the DOF budget function and when funds are needed for an IS or TC project

- Assist a department with a specific need or question concerning technology or an IS project

- Act as a technical advisor in a proactive manner about new IS and TC technology and applications to be used by the departments. This also includes searching for new and better ways to use IS and TC technology at the departmental

level, and ensuring all systems are efficient, effective, and economical.

OIT is accomplishing the first two areas of advocacy satisfactorily. However, both from discussions with the OIT management and the departments we visited, the third function of advocacy is being unattended. Although OIT once had a unit whose entire responsibility was to partially serve as proactive advocates, due to workload increases, it has been combined with OIT's Oversight Unit which now uses the personnel to fulfill the other two areas of advocacy, as well as other OIT responsibilities. OIT does conduct seminars for departments on a periodic basis concerning the IMAP and FSR process.

The apparent cause for the lack of proactive advocacy is due to a lack of available personnel resources and the perception by OIT that the proactive advocacy role is not appropriate for a control agency. The DGS/DT also has an advocacy/assistance unit consisting of six people that assist agencies with technical issues and planning. However, we note DGS/DT is also short of personnel resources to meet the TC needs of the departments.

The lack of proactive assistance may manifest itself in a redundant use of IS and TC resources as different departments solve the same problems other departments have already solved. This absence of proactive advocacy may also allow current inefficient systems to continue as the department management may not be aware of a better methodology or the need to make their IS and TC systems more efficient, effective, and economical.

OIT Has Not Audited Compliance of the Personal Computer Policy

In early 1985, OIT established a personal computer policy whereby departments may purchase personal computers (PC) through the State PC Store, if the department has a PC policy approved by OIT. SAM 4989.2 states:

> "OIT staff may conduct on-site visits to assess agency compliance with its approved personal computer policy."

OIT has never conducted an on-site audit. However, OIT is aware of purchases made under the PC policy, and they are planning on conducting audits.

Although OIT is not specifically required to perform the audits, the primary cause of this deficiency is there are no policies and procedures on how to accomplish the audit. There is also a lack of available staff to perform the audit.

The effect of not conducting audits is:

- The loss of control of allowable uses of PCs
- Proliferation of PCs that is unchecked
- Illegal copying and use of copyrighted software
- Not detecting and correcting physical security problems in cases where PCs have been stolen or vandalized
- Not detecting PCs that have been purchased through other department funds without using the PC policy

DGS/DT has not Audited Delegated TC Projects

Once a department has been delegated the authority to manage a TC project, there is no follow up by DGS/DT during or after the project to ensure the project has not deviated from plan and that user requirements were met. There is no specific reference in Government Code or SAM to require an audit of previous projects.

DGS/DT agrees with the value of performing follow-up audits, but is faced with a shortage of available resources to perform the audits.

We believe it is necessary to have these audits to provide a feedback mechanism to DGS/DT so they can make adjustments in the delegation criteria or prevent errors and inefficient TC systems from being installed in other agencies.

There are No Periodic Reviews of Operational IS Systems

Once an IS system is installed and operational for more than a year in a department, the system and department is not audited or revisited (other than the post-implementation evaluation report) to evaluate the management and operational procedures, as well as the efficiency, effectiveness, and economy of the system. This long-term, formal feedback is needed to evaluate if the system, as a whole, is fulfilling its intended purpose.

OIT is not accomplishing this function due to a lack of priority and the available personnel.

Without this review, OIT will not know if operational systems have met the original criteria and if the department management

is capable of handling the technical and managerial aspects of IS projects. In addition, there could be many IS systems which are not meeting user needs and not operating efficiently, effectively, and economically.

DGS/OP Has Not Audited Delegated Procurements

DGS/OP is permitted to delegate authority for the procurement of TC and IS goods and services to State agencies which have demonstrated to DGS/OP's satisfaction the ability to conduct cost-effective acquisitions. For procurement transactions with an annual value of $100,000 or less, SAM 5210.1 states:

> "Under such delegation, the requesting agency conducts (the) entire procurement processes including final contract approval of all transactions..."
>
> "All such transactions are subject to post audit by the Department of General Services. A post audit will usually be conducted within 18 months following delegation approval. Delegation will be extended upon satisfactory audit results."
>
> "In addition to published procedures, all transactions are subject to final review and approval by the Department of General Services prior to notification of intent to award."

For a procurement transaction with an annual value greater than $100,000, SAM 5210.1 states:

> "Agencies must make individual requests for delegations for each transaction of this magnitude prior to initiating any part of the procurement process....Upon completion of the Final Bid evaluation, the following are to be submitted for review and approval: procurement document, addenda, bidders' list, all proposals or bids received, contract of selected bidder, evaluation of final bids report."

DGS/OP has never performed such audits and reviews to ensure that the departments using delegated authority are conducting cost-effective procurements which are in compliance with established State procurement policies and procedures. We have found from our own personal experience that while departments may adequately administrate a delegated procurement, the RFP requirements are not adequately defined and the evaluation of proposals is not comprehensive. This is especially true with professional consulting and system integration type of procurements. In our view, this is due to a lack of sophistication by some departments on how to conduct a procurement, as well as a lack of knowledge concerning the subject area the department is procuring goods and services for. Periodic audits by DGS/OP during and after the procurement could alleviate much of this problem.

DGS/OP informed us the cause of this situation is due to insufficient personnel to perform the audits. Four new personnel have been added recently to satisfy normal DGS/OP workload requirements. There is no assurance that these personnel will conduct audits, but they may perform a limited number. See Section VI for a specific discussion of inadequate staffing at DGS/OP.

The effect of not performing audits is that the departments may not be conducting cost-effective procurements or may not be conducting procurements in compliance with State policies and procedures. Departments may also be purchasing goods and services which are not quality products.

Portions of the SAM Section 4500, Telecommunications Policy, are Not Current

The SAM has not been updated since the divestiture of AT&T. Some of the references are no longer valid and new TC issues have not been addressed, specifically:

- The ATSS/DS network is technically out-of-date. This network is no longer actively supported for new applications. The type of transport technology used is not compatible with all the types of data being transmitted, but is still being offered by SAM as a service.

- Some procedures for ordering equipment and services have changed but are not addressed in the SAM. Some of the departments now have their own equipment and the requirements in SAM do not consider this alternative.

- The SAM does not fully address department-owned equipment issues, problems, and new responsibilities caused by the divestiture of AT&T. The departments are tasked with a significant increase in their responsibility with little guidance.

The current and expanding workload within the DGS/DT is causing a shortage of personnel to accomplish the planning, and subsequent publishing of updates to SAM.

The effect is a lack of confidence in the management of the TC system and, thus, frustration on the part of the using departments as the policies and procedures are no longer a reliable source of information. However, DGS/DT is actively pursuing the issue and based upon a final report from two

external consulting firms, plans to have an updated version of the SAM published during the first quarter of 1987.

User Involvement in Setting IS and TC Policy Appears to be Adequate

One of the critical mechanisms in developing statewide IS and TC policy is the involvement of users in the policy-making process. The major source of user input to the State policy-making process is the California Focus on Information Technology (CFIT). CFIT is used for the inception of new ideas concerning policy and review of current and planned State policy related to IS and TC. When OIT writes new policy, they solicit input from CFIT members. CFIT also forms committees (composed of a cross-section of member user departments) which conduct policy-related projects.

Overall, it appears that the appropriate mechanisms are in place for involving users in the policy development process.

Although the appropriate mechanisms are in place, some of the user departments (including members of CFIT) feel the control agencies do not fully utilize or "listen to" user input in the formulation of State IS and TC policy. These responses from the user departments should be viewed in the context that the control agencies have a more statewide perspective and are more conscience of the interdependencies of State policies. OIT does not accept all recommendations made by CFIT and associated committees which may give the appearance that they are not fully utilizing user input. However, we could find no evidence of user input being ignored or unsolicited.

CONCLUSIONS

We have concluded that:

- Most of the audit and planning responsibilities that OIT and DGS/DT are not performing is due to insufficient personnel. See Section VI for a detailed discussion of inadequate personnel levels.

- It is not appropriate that OIT be responsible for proactive advocacy. While OIT should be responsible for training in certain areas (such as planning and the IMAP and FSR process), we believe it should be the responsibility of the Agencies to ensure that their department-level systems meet user needs and are efficient, effective, and economical.

- A State level strategic plan is needed for IS and TC to guide the Agencies and departments and ensure they are moving toward common goals.

- The departments and Agencies must be responsible for IS and TC planning as part of their normal program planning. OIT and DGS/DT should only ensure that the planning process is adequate.

RECOMMENDATIONS

The findings and conclusions of this section lead to the following seven recommendations:

- Restructure OIT in order to segregate its primary functions
- Return the proactive advocacy role to the Agencies
- Consolidate the TC five-year plan with the IMAP
- Develop a coordinated IS statewide strategic plan
- Develop IS and TC planning guidelines for department and Agency use
- Conduct routine audits of systems
- Restructure the IMAP reporting process

Each of these recommendations is described in detail in the following paragraphs.

Recommendation III-1 - Restructure OIT In Order to Segregate its Primary Functions

We recommend that OIT be restructured into three distinct units with separate and dedicated resources. These units should be:

- Planning and Requirements Unit - This unit should be responsible for:
  - State level IS strategic planning
  - developing and disseminating approved strategic IS planning methods for use by departments and Agencies

- developing a long-range forecast of required IS capacity on a statewide basis
- developing strategic business plans for OIT
- reviewing and approving IMAPs
- developing statewide IS policy

- Oversight Unit - This unit would be DOF's technical advisor as OIT is today. It would be responsible for the review and approval of FSRs and BCPs.

- Compliance Unit - This unit would review existing departmental systems and policies for compliance to governing policies and procedures. It would provide feedback to the Oversight Unit and Planning and Requirements Unit regarding efficiency, effectiveness, and economy of existing systems.

We recommend that the Planning and Requirements Unit actively and formally pursue the input of departments in regards to developing an IS strategic plan and setting IS policy. In order for OIT plans and policies to be effective, the users must be able to influence them. The current user committee should continue to be used as a forum to discuss and develop plans and policies.

We evaluated several organizational alternatives (such as a Department of Data Processing) for performing planning, oversight, and compliance and concluded that the structure we recommend above would be the most effective solution for State level management of IS. Many private and government organizations have an IS organization with the three main functions discussed above, and many of them have their IS organization reporting to the Chief Financial Officer of the

organization. Adding the two units (Planning and Requirements, and Compliance) will balance OIT's role compared to its current singular role of oversight.

In our view, the above structure will help ensure that OIT's statutory responsibilities will be met in an effective manner. In addition, we believe statutory performance objectives and goals for OIT should be established so that OIT knows how it is being measured, and Other Agencies, departments, and the Legislature would also know how to measure the success of OIT. Possible performance goals could be:

- Increased use of IS within the State measured by the total number of medium and large scale application systems.

- Increased service to user Agencies and departments measured by the length of time to process IMAPs and FSRs.

- Identification of uses for new technology measured by the actual use of new technology, the undertaking of prototyping projects, and training departments about new technology.

- Effectiveness of long-range planning measured by conducting annual strategic and operational planning for OIT's goals as well as statewide IS goals.

- Efficiency, effectiveness, and economy of current systems measured by the number of current systems recommended for enhancement based on review by the Compliance Unit.

- Increased user understanding of the IMAP and FSR intent and process measured by training classes and increase in the quality of IMAPs and FSRs.

Performance goals should be in statute, but OIT should determine how to measure performance. OIT should be required by statute to report annually a self-assessment based on these performance goals. This report should be distributed to the Director of the DOF and other interested organizations. If performance is not satisfactory, OIT should develop and institute necessary changes to ensure a satisfactory performance.

To implement this recommendation, the following OIT management actions should occur:

- Develop a plan for restructuring OIT to include:
  - roles and responsibilities of each OIT unit
  - number of personnel and types of experience required for each OIT unit
  - schedule for implementing new structure
  - internal OIT procedures for each unit

- Acquire additional staff to fill new positions (see Section VI for a detail discussion of staff requirements).

- Modify Government Code Section 11700 to allow OIT to assess and prototype new technology which promises increased efficiency, effectiveness, and economy of State information systems.

- Develop performance goals similar to those discussed above and develop procedures for measuring performances. Modify OIT's internal plans, policies, and procedures to ensure they are in accordance with these goals.

- Modify Government Code Section 11700 to include the performance goals developed above.

- Modify SAM to reflect all changes due to restructuring OIT.

Recommendation III-2 - Return the Proactive Advocacy Role to the Agencies

We recommend that the Agency secretaries or their designee be responsible for proactively advocating the use of efficient, effective, and economical information systems at the department level of their Agency. How aggressively an Agency wishes to pursue technology must be consistent with that Agency's goals, mission, and management style. This stance is consistent with the belief in the decentralized Agency structure.

We recommend that the Legislature eliminate the proactive advocacy role from OIT's charter (Government Code Section 11700) and assign it to the Agencies. In this way, Agency management can be correctly held accountable for overall effective and efficient performance of their department's operations. OIT would still be responsible for advocating IS and TC projects and for advocating use of State funds to support IS and TC projects.

To implement this recommendation, OIT should take the following management actions:

- Develop advocacy policy and specific procedural guidance for the SAM which Agencies should follow

- Meet with Agency management to discuss and possibly modify advocacy policy

The Legislature should modify the appropriate statutes to include proactive advocacy as an Agency responsibility.

Recommendation III-3 - Consolidate the TC Five-Year Plan with the IMAP

It is consistent with the evolving benefits of the IMAP approach to planning that both voice and data TC requirements be included in the IMAP process. This will lessen the burden on the departments by requiring them to go through only one planning process. OIT can then give DGS/DT a copy of the IMAPs which have TC requirements.

To implement this recommendation, OIT, in coordination with DGS/DT, should conduct the following management actions:

- Develop expanded IMAP procedures to include TC planning procedures
- Publish new procedures in the SAM
- Notify departments of changes and assist as necessary

Recommendation III-4 - Develop a Coordinated IS Statewide Strategic Plan

We recommend that the OIT Planning and Requirements Unit develop a statewide IS strategic plan. A statewide strategic plan for IS that is a consolidation of Agency IS plans (IMAPs) would generally not be practical or useful, nor would it be an appropriate use of limited resources. At the same time, a global plan produced by OIT stating goals and strategies for the use of IS in the State, would be of similar limited use, impact, and audience. To be effective, a statewide IS strategic plan must be a consensus statement of IS leadership (including DGS/DT) in the State. We recommend that OIT

sponsor, promote, organize and lead a series of quarterly meetings of leading State IS managers for the purpose of sequentially deriving:

- A consensus set of key Statewide IS objectives: What is the State trying to accomplish with technology?

- Strategies for accomplishing the objectives: How will OIT, Agencies, and departments proceed in order to accomplish the objectives?

- Needed tactics and programs: What Statewide programs are suggested by the strategies? What specific steps should Agencies and departments pursue?

- Metrics for measuring progress: What measures need to be put in place so that progress relative to the strategic plan can be measured?

A statewide IS strategic plan will help ensure that all departments are moving towards the same IS goals.

To implement this recommendation, OIT should perform the following management actions:

- Define and organize the planning process

- Conduct the first quarterly statewide planning meeting to determine strategic objectives (the current CFIT committee could be used as a forum)

- Continue strategic planning process to complete steps discussed above

- Coordinate strategic plan with DGS/DT

- Publish IS strategic plan

- Monitor progress of, and adherence to the strategic plan via the Compliance Unit

- Review the plan on an annual basis

Recommendation III-5 - Develop IS and TC Planning Guidelines for Department and Agency Use

In support of the second planning role defined for the Planning and Requirements Unit (Agency/department level planning guidelines), OIT and DGS/DT should take a more aggressive role in providing departments with specific guidance and methods for conducting IS and TC planning. Planning must begin at this level and work its way up through the Agency level (also see Recommendation III-7).

We recommend:

- OIT and DGS/DT survey existing IS and TC planning methods and select one or a compatible set of methods for use by departments

- Consideration be given to developing or tailoring methods for use in the State

- A process for consolidating resultant departmental plans at the Agency level be provided.

The selected methodology should embrace an approach to IS and TC planning that promotes integration, data-sharing, and resource-sharing.

To implement this recommendation, OIT and DGS/DT should complete the following management actions:

- Survey existing planning methodologies
- Select a methodology
- Tailor the methodology as necessary
- Publish guidelines in SAM as to the use of the planning methodology
- Train departments on the use of the planning methodology

Recommendation III-6 - Conduct Routine Audits of Systems

OIT should conduct the following system audits (reviews of system performance) subsequent to implementation:

- Post-implementation review: A review of system performance conducted six months to one year after installation. Post-implementation reviews consider and emphasize the effectiveness and efficiency of the systems development/ acquisition process as well as the extent to which the system meets user requirements. Adherence by department management to IS policies and procedures should also be audited.

- Mid-life review: Reviews of system performance conducted during the useful life of the system usually at two or three year intervals. Emphasis is on how the system can be enhanced to better serve user needs. Adherence by department management to IS policies and procedures should also be audited.

- Sunset review: A review performed toward the end of the useful life (four to five years) of a system that establishes the remaining useful life of the system and prepares for its replacement. Adherence by department management to IS policies and procedures should also be audited.

The Compliance Unit of OIT (reference Recommendation III-1) should establish a method for performing each type of review and a master schedule for performing such reviews for all key State systems. Consideration should be given to performing more frequent reviews of particularly sensitive, vulnerable, or non-interruptable systems.

DGS/OP should conduct periodic audits of delegated procurements to be in compliance with SAM as well as to ensure that the departments are conducting efficient and effective procurements and procuring quality products and services. Initially, all new delegated procurements should be audited with periodic audits of following procurements. If a particular department is having difficulty with procurements, either the procurements should be brought back to DGS/OP or every procurement by that department should be audited.

We also recommend that delegated procurements be audited on a periodic basis during the course of the procurement (especially

for critical or high-visibility procurements) so that errors can be corrected before the procurement is complete.

DGS/OP must have more personnel to perform this audit function. See Section VI for a more detailed discussion of DGS/OP personnel needs.

DGS/DT should conduct periodic audits of delegated TC projects to ensure they are in compliance with SAM, as well as to ensure that the departments are conducting efficient, effective, and economical TC projects.

DGS/DT must have more personnel to perform this audit function. See Section VI for a more detailed discussion of DGS/OP personnel needs.

To implement this recommendation, OIT, DGS/OP, and DGS/DT should respectively:

- Develop audit review procedures
- Develop system audit review schedules
- Conduct system audits

Recommendation III-7 - Restructure the IMAP Reporting Process

We recommend that the IMAP reporting process be restructured so that departmental IMAPs flow up to the Agency level for approval and then, in consolidated form, to OIT for review.

Restructuring the IMAP reporting process will have the effect of involving the Agency in the planning process and prioritizing departmental plans. This adjustment to the reporting process should also have the effect of removing

inconsistencies, redundancies, and gaps from among the departments of an Agency. The Agencies role should be to fit the department's IS and TC needs into the context of the entire Agency; the Agency should not conduct a lengthy review process.

In essence, it should be the Agency's role to determine and prioritize its IS and TC needs. OIT's and DGS/DT's role should be to ensure the planning process is adequate and promotes the use of efficient, effective, and economical IS and TC systems within the Agency.

To implement this recommendation, OIT should:

- Define the restructured reporting process
- Publish the revised process
- Review the revised process with Agencies

IV. COST-EFFECTIVE USE OF STATE RESOURCES

In our view, the lack of statewide IS strategic planning leads to less long-term efficient utilization of State resources. We found that IS and TC policies and operational plans generally promote the cost-effective use of State resources. However, we found that certain OIT control procedures are cumbersome and are causing unnecessary delays in agency IS and TC projects.

FINDINGS

We found that:

- Lack of statewide IS strategic planning may lead to uneconomical IS and TC systems
- State policies impose considerable additional time for each IS and TC project
- OIT review procedures cause unnecessary delays

Following is a discussion of each finding.

Lack of Statewide IS Strategic Planning May Lead to Uneconomical IS and TC Systems

As discussed in Section III, there is inadequate statewide IS strategic planning. Each department conducts their own planning based on their individual perceptions of need and the range of alternatives available to that department to meet those needs. There is no direction given relative to what the statewide strategic IS goals are nor is there a coalescence of Agency level IS needs.

Some departments are conducting planning for their own departments, but it is driven by their own business plans and departmental programs. There is no statewide or Agency level plan to provide context or guidance to the development of departmental IS and TC plans.

Statewide or Agency level IS and TC planning could provide direction to State departments and Agencies in high-level areas, including:

- The utilization of new and/or emerging technology, such as:
  - satellite communications
  - artificial intelligence
  - database machines
  - expert systems
  - local area networks
- Security of TC networks, IS data, and facilities
- Networking of personal computers
- Use of State data centers
- Use of State TC networks
- Procurement of IS and TC goods and services

All of these areas promote the cost effective use of State resources.

In our view, OIT has not taken a proactive role in developing statewide IS strategic plans due to the lack of resources and not placing a high priority on strategic planning.

Inadequate statewide strategic planning has caused IS and TC planning within each department and Agency to be conducted with little knowledge of what is being planned in other departments and no knowledge of how their planning may or may not fit into an overall Agency or State plan. Our experience is that program and project planning conducted in a vacuum usually will not result in plans that make the most cost-effective use of resources considering total organization needs. In addition, if departments are not planning within a statewide framework, inconsistencies can occur between department goals and statewide goals.

State Policies Impose Considerable Additional Time for Each IS and TC Project

State policies for IS and TC generally appear cost effective when each is considered separately for overall need and reasonableness. However, we found that when those policies are actually applied to IS and TC projects, they tend to impose considerable additional time to each project's schedule.

We found that the control and review process by OIT can be delayed for a variety of reasons. Delays caused by OIT include:

- Overly stringent FSR requirements for relatively routine projects
- Inefficient internal review policies and procedures
- Lack of resources available for FSR reviews

The three major delays caused by user departments include:

- Misunderstanding of the FSR intent and process

- Lack of IS and TC sophistication
- Slow response to OIT requests for additional information

The effects on project schedules of the problems caused by OIT are that cost-effective projects are delayed for reasons that are beyond the control of the department. Overly stringent FSR requirements cause delays because certain FSRs for small projects should not be as detailed as a FSR for a large integrated system. Departments may spend considerable time developing need justifications and alternatives for projects that may have been developed several times previously by other departments.

The effect of delays on schedules, which are induced by user departments, are more complex. Many times long FSR approval times are caused by an inadequate FSR submitted by a department. The smaller, less sophisticated departments often have valid projects but have trouble understanding the requirements of a FSR. In addition, they usually do not have dedicated staff to conduct the proper analysis necessary to write a FSR and to go through two or more iterations that are often necessary before all FSR requirements are met.

Other times, a department may understand the requirements of developing a proper FSR, but they may be proposing a project which is either not justifiable or their FSR has not been fully developed. In either case, OIT requires additional information or clarifications that could add weeks to the approval process.

OIT Review Procedures Cause Unnecessary Delays

Some of OIT's internal procedures appear cumbersome and time consuming. For example, each project-related document (FSR, SPR, IMAP) that is received by OIT is reviewed by the Director,

Deputy Director, Chief of the Oversight and Assistance Unit, and the Unit Manager before the document is assigned to an analyst. This procedure can add up to four days to the review and approval process.

The cause of this processing delay is OIT's internal review process. Each control document goes through two management reviews, coming into OIT and leaving OIT.

The effect of the extra review is the additional time required for four extra reviews and the time it takes to route the document from office-to-office. Four extra days are small compared to the average processing time (17 weeks) for FSRs, but it is significant compared to the six weeks OIT normally takes to approve a responsive FSR.

CONCLUSIONS

In our view, the State policies and procedures for developing and managing IS and TC projects are generally cost effective. However, the vast majority of those policies and procedures are related to the controlling of projects and few are there to encourage rapid implementation of new cost-saving systems. For example:

- There is a policy calling for TC strategic planning, but no procedure defining what strategic planning is or how it should be accomplished.

- FSRs are viewed by many departments as a control document rather than an analysis and planning document intended to ensure a quality project is conducted. The FSR is intended to be a report documenting a comprehensive analysis and planning process.

- The IMAP is likewise viewed as a control or informational document rather than as a planning tool.

We have observed departments complying with policies to "fill a square" rather than to ensure that reliable, efficient, and cost-effective systems are implemented to meet realistic, quantifiable needs.

While we believe the FSR process is valuable and should be required, the administration of FSR procedures are far too stringent for many smaller or "less risky" projects, and those same procedures are far too obscure and complex for smaller, less sophisticated departments to understand and comply with on their first pass through the process.

RECOMMENDATIONS

We have developed the following recommendations:

- Formulate statewide IS strategic plans
- Streamline FSR procedures
- Streamline and formalize OIT document review procedures
- Develop FSR and IMAP training materials

Recommendation IV-1 Formulate Statewide IS Strategic Plans - Recommendation III-4 defined the need for a statewide strategic plan in terms of deriving:

- Statewide IS objectives
- Strategies for accomplishing the objectives
- Operational plans and programs
- Metrics for measuring progress

It was pointed out in Section III that without a strategic plan, there is no assurance the State will constantly move towards more efficient, effective, and economical IS and TC systems. Each department should be able to use the statewide strategic plan, along with their own program needs, to develop a department strategic plan responsive to program needs but within the framework set by the statewide plan. This planning process will help to eliminate plans and projects that are not in the best interest of the State.

Recommendation IV-2 - Streamline FSR Procedures - We recommend that the procedures for FSRs be made to reflect the size, complexity, and risk of the proposed project. SAM, Section 4923, states that the "FSR level of detail...should be

commensurate with the complexity of the subject...", but does not detail what that means.

We recommend that FSRs be split into several categories, such as:

- Office automation
- Hardware
- Software development
- Software purchase
- System integration
- Telecommunication
- Professional services

We further recommend that the categories be split based on the size or cost of the project. Such a classification system would allow FSR requirements to be tailored to both the project type and size.

We recommend that OIT develop model FSRs, similar to what they have done with the personal computer policy, that will demonstrate the level of detail desired for each project category and size.

To implement this recommendation, OIT should conduct the following management actions:

- Develop a project classification system that takes into account the project:
  - type
  - risk
  - size
  - cost
  - complexity

- Develop model FSRs to demonstrate the detail, information, and steps required for each project classification.

- Revise SAM sections 4921-4926.1 to reflect the project classification system and include model FSRs. This step should be implemented in a phased approach starting with the project types and sizes most often encountered by the smaller and less sophisticated departments.

Recommendation IV-3 - Streamline and Formalize OIT Document Review Procedures - We recommend that OIT streamline their procedures for reviewing control documents (FSR, SPR, IMAP). For example, control documents could be directed immediately to the analyst assigned to that project or department, with a copy directed through management for their comments.

All documents reviewed by OIT should have formally approved standards that are to be used by the analysts during their review. OIT currently has such standards, but they are neither formally approved nor as detailed as we believe necessary to ensure that all projects of similar type are reviewed according to the same standards. The standards should include both qualitative and quantitative measures of acceptable responses to document sections. These standards become management's control on the depth and quality of the review process.

To implement this recommendation, OIT should conduct the following management actions:

- Review OIT office procedures for efficiency and effectiveness.

- Implement revised office procedures.

- Develop and implement document review standards. The standards should be formally approved by OIT management and should be reviewed at least annually.

Recommendation IV-4 - Develop FSR and IMAP Training Materials - We recommend that materials be developed to train and guide the smaller, less sophisticated departments in the development of their FSRs and IMAP documents. These materials should build on the formalized classroom training now being offered, but the emphasis should be on self-instruction. The materials should also have numerous examples that demonstrate a range of:

- Opportunities for the application of IS
- Alternative solutions to common needs
- Methods to justify needs with cost savings and/or cost avoidance
- Implementation alternatives
- Management plans

The training courses that are now offered by OIT are appropriate, and we recommend the programs be continued and expanded to offer the courses more often and in more locations. With increasing emphasis on "user computing" and a growing cadre of users who are now outgrowing their personal computers, more FSRs will be written by people who are not familiar with the FSR process.

The training material developed for the IMAP process should emphasize the planning process rather than the mechanics of filling out the forms. The materials should include the planning methods to be developed by OIT's Planning and Requirements Unit (See Recommendation III-1).

To implement this recommendation, OIT should conduct the following management actions:

- Develop a training plan that coordinates classroom training, self instruction, and OIT's technical advisory role (see Recommendation III-1) for FSRs and the IMAP process

- Develop training materials that emphasize self instruction

- Reference the availability of the materials in the State Administrative Manual

- Annually revise and update the materials

V. COMPETITION AND EXPEDITIOUS PROCESSING

We found that the statutes which govern the acquisition of IS and TC systems promote more than adequate competition. We also found that procurements were generally processed by DGS/OP in an expeditious manner. More importantly, however, we concluded that the State procurement practices are not sufficiently flexible for the changing needs of a large applications software development project. As a result, there is a high potential that software development projects, which are contracted with an outside entity, will be over budget, delivered late, and marginally meet user requirements for the new system. Based on our national experience with government related procurements, we believe software development projects are the fastest growing procurement area.

FINDINGS

Current Procurement Approaches are Inflexible Towards the Changing Needs of IS Projects

Current procurement policies, as defined in SAM, and DGS/OP practices are oriented towards buying a "product" where the State's IS and TC requirements are fairly easily specified as opposed to buying "services". For example, hardware, system software, and telecommunications requirements are easily quantified compared to defining user requirements for a new IS which often change. A "product" oriented procurement approach does not always meet the flexible needs of systems integration projects, management consulting projects, and growing hardware requirements. In our view, these type of projects will significantly increase in the near future as the demand for new and enhanced IS and TC systems continue to increase.

Currently, the State employs three accepted competitive procurement techniques to acquire IS and TC goods and services. They are:

- Invitation for Bids (IFB) - The solicitation document is highly structured and details the specification in functional and/or technical terms. The objective is to obtain goods and services at the lowest practical cost to the State.

- Requests for Proposals (RFP) - It is permissible for the requirements (or specifications) portion of the solicitation document to be stated in a more general nature describing the problem to be solved or the goal to be achieved. Vendors are encouraged to propose their own individual problem solution or approach free of any precise State imposed mix of hardware, software, or IS techniques. Selection of the vendor may be on factors other than or in addition to cost alone. All such factors, however, must be included in the Evaluation section of the Request for Proposal document.

- Request for Quotations (RFQ) - Certain IS and TC procurements are so straightforward and clearly defined that they do not warrant the personnel hours required of State departments in the preparation and execution of either the IFB or RFP documents. An example would be formally advertised solicitations where offers are limited to one or two specific makes and models of equipment.

For IFBs and RFQs, very precise specifications must be met by the vendor leaving very little room for variations in the proposed products. These are appropriate for certain hardware purchases when the State knows specifically what is needed.

RFPs are used when the requirements are more general in nature and when the State desires the vendor to propose a solution to meet the State's requirements.

For RFPs, a multi-step process may be used and is required for procurements over $100,000. The major steps are:

- Compliance Phase
  - .. Conceptual Proposal
  - .. Detailed Technical Proposal
  - .. Revised Detailed Proposal

- Bid Phase
  - .. Draft Bid
  - .. Final Bid

The multi-step process was developed to provide a structured method for discussing alternative solutions to the requirements and to obtain responses that are not only technically responsive to the requirements of the solicitation document and contain approved contract language, but are free of administrative and clerical errors.

While the Conceptual Proposal is intended to allow vendors the flexibility to propose varying approaches (when the specifications are more general or conceptual in nature), we found that, historically, the Conceptual Proposal has been used very little. This is partially due to the excessive amount of time required to process and evaluate proposals from each vendor for up to the five possible proposals identified above.

The result is that the State attempts to define detail requirements and specifications thus not allowing the vendors to propose a possible approach which may be more economical,

efficient, and effective for the State. In essence, the State reverts to buying a "product" instead of an "approach".

The cause of inflexible procurement approaches is that DGS/OP generally requires RFPs to contain all detail department requirements that the prospective vendors must meet throughout the life of the contract. For hardware, system software, and TC type of procurements, this is fairly easy to do, but IS service type of requirements (such as systems integration projects and management consulting projects) are much more difficult to define in detail. IS service requirements are difficult to define in detail because the system integration and management consulting process naturally leads to changes in scope and detail requirements as the project progresses.

As a result, the departments try to determine all their detail requirements and then find themselves negotiating costly system requirements changes with the contractor during the normal course of a system integration project.

In addition, the requirements and specifications may have not been defined adequately by the State making it difficult for the vendor to determine what the State really needs. This results in either the vendor "padding" their bid to lower their risk, or the State procuring a product or service which does not meet their original intentions.

CONCLUSION

We believe that the procurement practices of the State are not flexible to the changing needs of modern IS and TC systems. Information technology will continue to advance at a rapid pace for the foreseeable future; therefore, the State needs to have in place procurement practices and policies which are appropriately flexible to manage and take advantage of technological change. Contractual flexibility is needed for IS services and hardware.

Contractual Flexibility for IS Services

The need to have contractual flexibility is most pronounced in system integration projects (requirements definition, analysis, design, programming, hardware, and implementation) and professional consulting services. While historically the State has procured mostly hardware, system software, telecommunications, and technical assistance, we believe there will be a significant increase in the number of procurements (integration and professional consulting) where the selected vendor will be responsible for the total integration of a new system. This integration could include:

- Defining user requirements
- Conducting systems analysis
- Preparing systems design
- Programming
- Implementing hardware and system software
- Implementing TC
- Implementing applications software
- Maintaining the IS after implementation

The Employment Development Department and the State Treasurers Office projects are all examples of these type of projects currently in process. We believe these types of projects will increase significantly due to demand by departments and the lack of State personnel to implement new systems.

Integration projects occur over long periods of time and, thus, transcend the budget cycles of the State. In addition, they almost always experience significant changes in user requirements which effect the development of application software and possibly the hardware configuration. In the current environment, we believe the State's contracting policies and practices do not lend themselves towards handling the changes that will happen as a natural occurrence in an integration or management consulting type of project.

Changes will occur in all phases of an integration project (as described above) because:

- Detailed analysis may uncover additional or different user requirements than originally known

- Detailed analysis may require a basic change to the scope of the project and system

- Legislative mandates may be enacted during the project requiring further or varying system capabilities

- Detailed hardware capacity planning (once the system design is complete) may require a different hardware, system software, and TC configuration than was originally anticipated

- Original requirements and costs are only estimates for planning purposes and will never be completely accurate

Currently, these changes are very costly to the State because:

- The State has to negotiate a change order with the vendor which usually results in a higher charge than if the change had been originally thought of and included in the contract

- The vendor anticipates possible change and "pads" their original proposed cost

What is needed are procurement and contracting strategies which allow the State the flexibility to change their requirements during the project, and allow the vendor to respond to normal change in a cost-effective manner.

Contractual Flexibility for Hardware

The need for contractual flexibility also exists in the hardware area. Just as there is change which effects the application software design, there is also change which could affect the hardware configuration once it has been implemented. These types of changes are:

- A new application system may be implemented which will require more hardware, system software, and TC

- The use of the system may increase faster than originally planned

- More data may need to be stored than was originally planned

- Additional users may require terminal equipment and TC capabilities

- New technology may be more cost-effective

While there are examples of contracts within the State that allow some of the changes described above. Historically, these changes would require a department to go through the entire FSR and procurement process before the need was met. Typically the users suffer during the period of time the department is trying to justify and procure the new hardware.

Alternative procurement and contracting strategies are needed for procuring hardware, system software, and TC which will allow departments to respond to changing needs without constantly having to go through the FSR and procurement process.

RECOMMENDATIONS

We have developed two recommendations which we believe will enhance the effectiveness of IS and TC procurements within the State:

- Formulate additional procurement strategies
- Prototype the new procurement approaches

Recommendation V-1 - Formulate Additional Procurement Strategies

We recommend that DGS/OP formulate broad-scale procurement strategies to encompass the design, development, acquisition, operations, maintenance, and ongoing modernization of State IS and TC systems. The State should consider the following types of procurement approaches when developing a new strategy:

- Task order contracts
- Facilities management of IS and TC systems
- Projects that consist of multiple, progressive phases
- Long-term contracts
- Incentive-fee contracts
- Best and final offers
- "Compute-offs"

These approaches are not exclusive of each other and can be combined to meet the particular needs of a project. Each approach is appropriate for certain kinds of projects and situations and should be up to the department responsible for the project and DGS/OP which approach should be used. These approaches do not replace the "product" type of procurements occurring today; they are in addition to them. There will be

many cases (especially small, definable hardware purchases) where the current procurement approaches are appropriate.

Each new approach is discussed below.

Task Order Contract - This approach is often suitable for integration and professional consulting type of contracts where the State's requirements are likely to change and the end result is difficult to define in detail. It is also appropriate when the State wants timely and efficient access to a professional service or expertise without having to continually reprocure the service.

A task order contract is a firm-fixed-price contract, but it is the hourly rates per person (or for each level of professional) that are fixed, not the contract deliverables. The contract is normally divided into separate and distinct tasks for which hours, expenses, and deliverables are negotiated for each task. The negotiated task then becomes part of the contract and the vendor is contractually bound to the hours, expenses, and deliverables. When a particular task is complete, another task can be negotiated or multiple tasks can be performed at the same time. At no time would the State be obligated to use all the hours covered in the contract.

A task order type of contract is appropriate for retaining a particular expertise on an as-needed basis without having to continually reprocure the same expertise. For example, the State Treasurer's Office system integration project is planning on using a task order contract for a portion of Phase 2 of the project. There will be a "bank" of 10,000 hours for implementation assistance which the State Treasurer will use to complete various implementation activities. We have seen these type of contracts used effectively in the Federal government.

Task order contracts could also be used effectively for designing and developing information systems (integration services) when, typically, the user requirements are not well known or are expected to change, or the resulting system will be very large. A task order could be negotiated for each integration step (requirements definition, systems analysis and design, programming, and implementation) based on the knowledge learned from the previous step. The advantage to the State would be the ability to vary system requirements before proceeding to later integration steps thus resulting in a system that meets the users needs, but at the same time not having to deal with costly change orders. In essence, the State can control the requirements for each integration step based on the new knowledge and lessons learned in previous steps.

We were informed by DGS/OP that the use of a task order contract may be hindered due to Civil Service statutes. DGS/OP is currently researching this problem.

Facilities Management - In our view, the State should consider the privatization (facilities management) of IS and TC systems. It may be appropriate for certain IS or TC systems if a vendor was retained to be responsible for all or part of a system during the life cycle of the system. The type of services and responsibilities for a particular IS or TC system that the vendor could be retained for include:

- Application software
  - definition of user requirements
  - design
  - development
  - implementation

- .. training
- .. maintenance after implementation; this includes normal maintenance and system enhancements

- Hardware and TC
  - .. capacity planning
  - .. configuration management
  - .. installation
  - .. maintenance
  - .. technology insertion
  - .. training
  - .. systems programming
  - .. operation
  - .. network design
  - .. network control
  - .. supply additional or replacement IS and TC hardware and system software

There are four key points with this approach:

- The vendor should be responsible for the IS or TC system; the State would simply monitor their performance and feed IS and TC requirements to them.

- The vendor should normally own the hardware, system software, and TC systems; however, we have seen examples (in the Federal government) when it would be appropriate for the State to own the hardware, system software, and TC systems. Normally, the State should own the application software if it was developed for them. There will be cases (such as packaged software) where the State should simply purchase a license to use the application software.

- The State should not have to continually reprocure IS and TC services and products whenever they are be needed; it should be the responsibility of the vendor to supply more products and provide services to meet the State's IS and TC needs. The State should ensure funds are available via the BCP process to support increased service and need.

- This approach works best if it is a long-term contract (eight to twelve years) with fees and expense formulas negotiated before contract award.

This approach may be appropriate for the State in the following situations:

- A particular department may not have the resources, skills, and desire necessary to develop, operate, and maintain an IS or TC system

- An Agency may have several or many departments with IS and TC needs that could best be met if a data center was established to meet the need

- Additional data centers may be established in the future that provide service to more than one Agency

- Current data centers may evolve towards this approach because of the flexibility it offers

The precedence has been set in the State by the Medi-Cal contract with Computer Sciences Corporation (CSC). CSC is responsible for all areas of IS and TC systems relating to Medi-Cal claims processing.

Several models exist within the Department of Defense where systems acquisition procurements have been managed to provide for compatibility and ongoing technology refreshment without violating the rules of competitive procurement. Two examples are the Army's project VIABLE and the Navy's Inventory Control Points (ICP) Resolicitation Project.

VIABLE is an Army project in which contractor-operated regional data centers provide computer support for base operations through an integrated nationwide network. The contractor is responsible for acquisition, operation, and maintenance of hardware and systems software. The contractor also conducts a quarterly technology review to inform the Army of opportunities for technology refreshment. VIABLE is a fixed-price contract. Key features of VIABLE are presented in Exhibit V-1.

The Navy's ICP project is supported by a long-term systems integration contractor. The contractor is responsible for providing and maintaining the operating environment (hardware and systems software), but the system is operated by Navy personnel. The contractor is required to offer new hardware and software products for use as technology upgrades throughout the system life. An incentive for technology refreshment is provided by sharing the savings arising from technology upgrades with the contractor. The ICP project is a fixed-price contract. Key features of the ICP project are presented in Exhibit V-2.

EXHIBIT V-1

KEY FEATURES OF VIABLE

- Major objectives:
  - conduct competitive procurement
  - minimize installation risk and service disruptions
  - get information system resources which solve BASOPS problems
  - obtain newest technology
- Ten-year, fixed-price contract, renewable annually
- Government-owned, contractor-operated facilities
- Quarterly technical updates required
- Original intention was to lease equipment, but purchase is now required
- Funded through procurement and O&M appropriations
- Army stated requirements and contractor proposed solution
- Contractor responsible for:
  - provisions of hardware and systems software for:
    - five contractor-operated regional data centers
    - fourty-four Army-operated distributed processing centers
  - connectivity of communications network to each base
  - transition of application software to new hardware (no redesign)
- Originally projected 11.3% annual increase in workload, 18% in transactions; actual experience has been approximately triple these estimates
- Finance, personnel, and logistics applications supported
- Army regional data center team consists of seven people
- Army RDC team responsibilities:
  - COTR
  - review of resource utilization
  - planning and direction of regional operations and network
  - problem tracking
  - security management

EXHIBIT V-1, Continued

- Army RDC team responsibilities (Continued):
  - .. performance monitoring
  - .. liaison with users
  - .. monitoring configuration management
  - .. RDC budget
  - .. database administration
  - .. monitoring hardware maintenance
  - .. scheduling management

EXHIBIT V-2

KEY FEATURES OF THE NAVY ICP RESOLICITATION PROJECT

- Major objectives
  - .. extended system life (24 years)
  - .. technology refreshment
  - .. flexibility to change configuration to meet current needs
  - .. single vendor responsibility
  - .. fleet support (minimum risk to logistics support of operating forces)
- Eight-year fixed price contract with two eight-year renewal options
- Contractor responsible for providing operating environment (hardware and systems software), integration, and maintenance
- All equipment is leased due to expected volatility of hardware configuration throughout system life
- The prime contractor acts as systems integrator for approximately 50 subcontractors
- Technology upgrades must be offered during the entire system life
- Economic incentives are offered for exceptional system effectiveness and for government cost reductions due to technology upgrades
- Requirements statements included all functionally-oriented elements of a functional description and excluded all system-specific elements
- Competitive procurement regulations were rigorously followed

Phased Projects - This approach is appropriate for system integration type of projects where the project can be divided into separate and distinct phases. Typically, the project phases consist of segments of the total IS. For example, the planned State Treasurers system will consist of Treasury Information, Debt Tracking, and Administrative systems. Each of these systems could be separate phases with the following activities occurring in each phase:

- User requirements definition
- Conceptual level systems analysis and design
- Detail level systems analysis and design
- Development (programming and testing)
- Implementation (installation and training)

As part of the procurement, the vendor should propose a detail solution for the first phase and a more general solution for further phases. The vendor should also propose and be evaluated on their overall approach and methodology for completing all phases. This includes their use of:

- Formal systems analysis and design methodologies
- Systems analysis and design automated tools
- Standards and procedures for programming and testing
- Training approach
- Capacity planning approach
- Project management approach
- Fees and expenses

The fee and expense formulas for all phases should be negotiated before signing the initial contract. Typically, the vendor should be required to bid a fixed price (or incentive fee arrangement discussed below) for the first phase and estimated fees and expenses for the other phases.

The benefit of using this approach are:

- The State has the flexibility of modifying requirements and deliverables for each phase before the phase begins. These modifications could be due to any of the reasons discussed in the task order type of approach discussed above. While modifications to requirements and deliverables should be negotiated with the contractor, the fee and expense rates would still be at the rate negotiated before the initial contract was signed.

- Implementing information systems in phases is a less riskier approach for the State and the contractor than trying to design, develop, and implement the entire system at once. Only one phase is at risk at any one time.

- Using a phased approach generally offers benefits of the new system to the users before a non-phased approach would.

Combining this approach with a task order type of approach would offer even greater flexibility, but may not be appropriate for large system integration projects. This combination may be more appropriate for small integration projects or for large professional consulting contracts.

Long-Term Contracts - For hardware, system software, and TC procurement areas, we recommend the State consider utilizing long-term contracts which include:

- Initial buy of hardware, system software, and TC

- Additional buys for planned upgrades due to increased needs for capacity

- Technology insertion

- Additional buys due to unanticipated increased needs for capacity

The benefit of this approach is that system configurations can respond to changing needs without going through the procurement process. In our view, the contracts should be for at least four years. Examples of this approach exist at the Franchise Tax Board and Teale Data Center.

Incentive Fee Contracts - The intention of this approach is to allow maximum contractual flexibility for large system integration type projects but, at the same time, keeping the contractor responsible for the success or failure of the project. The role of the State in this approach is of monitoring the progress and success of the contractor. This approach is appropriate for large integration projects that are expected to extend over multiple years and where the user requirements are not well defined.

The basic premise of this procurement approach is that a vendor is awarded incentive fees based on their performance. Performance is evaluated relative to their proposed approach and the State's requirements as specified in the RFP. The contractor will always have their cost of business covered by the State, but if the contractor does not adequately perform, they will not receive an incentive fee and, therefore, make no profit. To determine if and how much incentive fee should be awarded to the contractor, the State would have to monitor and evaluate the contractor in the following areas:

- Compliance with RFP requirements

- Compliance with schedule

- Compliance with original cost estimates
- Compliance with original personnel workload estimates
- Compliance with proposed analysis and design methodology, programming standards, implementation plan, and project management approach
- Compliance with original hardware and TC capacity plans
- Quality of deliverables
- Flexibility to respond to change

Vendor performance in the above areas should determine the amount of incentive fee awarded and profit made by the contractor.

The State should reimburse the contractor's cost, up to a negotiated limit, via auditable cost reports submitted by the contractor. Fees should be based on direct labor rates, general and administrative rates, and overhead rates that should be audited by the State (or Federal audited rates could be used) prior to contract signing.

While the incentive fee approach is a limited, cost-plus type of contract, the vendors are obviously in the systems integration business to make a profit, and they will strive to meet the parameters of the contract as defined in their proposal and in the State's RFP. Basically, the contractor is being held accountable for the approach that they proposed and that the State agreed to. This reduces the risk of this type

of limited cost-plus contract compared to a time-and-materials or non-definitive type of cost-plus contract.

This approach is flexible because a limited cost-plus contract will allow the State to easily modify system requirements and contract deliverables during the course of the project. Modifications would be negotiated with the contractor using the predetermined cost and expense rates. Because this approach is often used in a phased project, the benefits of a phased approach, discussed earlier, also apply. If a phased approach is used, the incentive fee should normally be awarded after a phase is completed and evaluated by the State.

The United State Air Force Logistics Command is currently using this approach for two major system integration projects, each with a project budget over $100 million. Each program is divided into multiple phases with some phases overlapping each other. The length of the contracts are from eight to twelve years. The vendors have total responsibility for identifying detail user requirements, systems analysis and design, programming, implementation, installation and maintenance of hardware, system software, and TC, future upgrades to hardware due to growth and technology insertion, and training. To our knowledge, their have been no significant cost overruns, and we know of at least one instance where the vendor was awarded only a small incentive fee due to poor performance.

Best and Final Offer - The intent of this approach is to allow the vendors to be more competitive by changing their approach and cost proposal after the State has evaluated all the proposals. This approach can be combined with any of the current State procurement approaches or the recommended approaches discussed in this section. From our experience,

almost all vendors will lower their price when a best and final offer is solicited.

This approach could easily be a step in the Final Proposal process. The State should inform each vendor how they scored relative to cost (for example, Vendor A could be informed they received six out of ten points for score while Vendor B could be informed they received eight out of ten points). Once the best and final offers are submitted, the cost proposal should be reevaluated and combined with technical score to determine the final winner.

"Compute-offs" - For large scale system integration projects that cover multiple years and phases, it may be appropriate to conduct a "compute-off" between two vendors before the final selection is determined. Typically, two vendors should be selected from a group of original bidders and paid a token amount by the State to develop the first phase of the system. During the first phase, the vendors should be evaluated on compliance to their proposal in the following areas:

- Cost
- Schedule
- Project management
- Analysis and design methodologies
- Programming standards
- Testing procedures
- Quality of deliverables

At the end of the first phase, a final vendor should be selected to implement the first and remainder of the phases.

The benefit of this approach is being able to select a vendor based on the vendor's demonstrated and measured performance.

For large system integration projects, we believe this approach is inexpensive insurance of ensuring a vendor is selected that has the best performance and can meet the State's requirements.

We have personally been involved with two "compute-offs" at the United State Air Force Logistics Command; both of which were successful. In one case, the vendor we would have selected, based on their proposal, was not able to finish the first phase while the second place vendor did finish. In this case, the "compute-off" saved the Air Force millions of dollars in dealing with a contractor who could not deliver a quality product. The extra cost of conducting the "compute-off" was less than five percent of the total project budget because the first phase was sized to be demonstrative, not expensive.

To implement this recommendation, the DGS/OP should appoint a task force to develop policies regarding the procurement approaches we have discussed above. The task force should include:

- Procurement personnel
- Technical personnel
- Functional representatives with experience in information and telecommunication systems acquisition
- Representatives from contractors

The policies should include:

- A description of the approach
- Conditions the approach is best suited for

- How to conduct a procurement using the approach

- Unique project management requirements once the contract is awarded

The task force should perform the following activities:

- Research each of the procurement approaches discussed above to ensure they are fully understood by the task team members

- Identify other possible procurement approaches

- Determine what changes are needed in statute, SAM, and internal DGS procedures to allow for the new approaches

- Develop new policies (statute and SAM) and procedures for using the new approaches

- Coordinate with the Legislature on any new laws or changes to existing law which may be required

- Determine training requirements for educating State departments on how to use the new approaches

Recommendation V-2 - Prototype the New Procurement Approaches

The procurement approaches developed by the task force we recommended above should be tested or prototyped in a single department or on a single information system development program. By applying the new procurement approaches to just one department or project, the risk to the State will be reduced and modifications to the approaches can be accomplished much easier. As the new approach is proven, additional departments and projects can be added in a phased approach.

VI. STAFF AND EXPERIENCE LEVELS

We found that the experience levels at DGS/DT and DGS/OP to be appropriate; however, a moderate number of additional staff are needed. The experience levels and number of staff at OIT are significantly inadequate to effectively perform the duties required by law and sound management practices. Inadequate staffing at OIT and its predecessor organizations has been due historically to the continual pressure by DOF and the mood of this and previous administrations to keep staff level growth within the State to a minimum. The result is that certain management plans and policies are neglected and poor service is perceived by the departments.

FINDINGS

We found:

- Inadequate depth and diversity of experience within OIT
- OIT responsibilities are not fully met due to inadequate staffing
- DGS/OP responsibilities are not fully met due to inadequate staffing
- Future workloads at DGS/DT may not be met with current staff levels

Each finding is discussed in detail below.

Inadequate Depth and Diversity of Experience Within OIT

The oversight and planning functions within OIT require staff with current knowledge of IS and TC systems. In order to understand the technical content of various department projects and be able to anticipate potential problems associated with the hardware, software, or project approach, OIT staff must have previously done that type of work and be expert in their field. OIT staff must be as good as the best IS personnel working for the departments they are reviewing in order to adequately review their plans and projects. In addition, OIT functions as the "technical staff" to the DOF and must advise DOF on the technical aspects of BCPs.

The IS and TC fields are advancing so rapidly that people working in these fields must make a conscious effort to remain current. This effort usually includes a combination of involvement with projects that are "on the leading edge", in-service training, job rotation, and self-study.

Key OIT staff members have had long tenure with OIT. Some have either never worked in major IS or TC environments or did so only for short periods or longer than two years ago. Although long-term employment within OIT, by itself, does not indicate a lack of current industry knowledge, it can impede the vision of those individuals if they have not received current information through the methods noted above.

In our view, the cause for inadequate OIT staff experience is that current State personnel policies do not require job rotation of OIT staff through operating departments. Another cause is current training funds only allow staff members to

attend one outside seminar each year. Staff members are "encouraged" to obtain other education and training, but there is no requirement.

The effect of having staff who are not fully trained and technically current include:

- Staff may be unable to properly evaluate new technologies for applicability to State needs

- Staff may be unable to recommend viable alternatives to costly technologies

- Staff may have inadequate knowledge to suggest a range of solutions to demonstrated user needs

- Staff may not feel competent to evaluate and question projects from "strong" departments and Agencies

OIT Responsibilities Are Not Fully Met Due to Inadequate Staffing

We were unable to find any OIT responsibilities, as defined in statutes, that were not being addressed or had not been addressed within the last two years. However, we did find several OIT activities either not being performed efficiently or not being revisited as often as needed. These activities include:

- Statewide planning
- IMAP reviews
- FSR approvals

Statewide Planning - The primary cause for the lack of planning (also discussed in Section III) is insufficient staff trained to conduct strategic and operational planning. OIT's first attempt at a strategic plan two years ago was essentially the work of one person.

IMAP Reviews - The annual planning reports (IMAPs) for the entire State are due on the same date which places a tremendous strain on the staff for a 60 to 90-day period. Our observation is that the non-IMAP workload suffers during this period.

FSR Approvals - The average time from submission to approval for a selected group of FSRs was 17 weeks. Much of this time was taken up with obtaining additional information and clarifications from the submitting department. We believe that time could be significantly reduced if personnel were available to stay close to the project and, perhaps, even help the department obtain the needed information.

We believe the recent reorganization at OIT, by combining the oversight and consultancy functions into a single unit, was prompted partially by a need to pull resources from the consulting unit to help with the oversight workload. The lack of staff to effectively carry out OIT's oversight role has caused the planning and compliance roles of OIT to suffer.

The effect of inadequately performed OIT responsibilities due to inadequate staff is that departments may not receive timely and effective service and guidance from OIT thus hindering department projects and not ensuring efficient, effective, and economical systems.

DGS/OP Responsibilities Are Not Fully Met Due to Inadequate Staffing

DGS/OP has the responsibility to ensure that all IS and TC related acquisitions are performed according to State law. We found that DGS/OP has implemented and administered adequate policies and procedures governing these acquisitions.

However, frequent and certain auditing is required to assure compliance to policies and procedures. We found that very few audits of delegated procurements have been performed. DGS/OP stated a lack of staff was the cause and they were able justify four additional staff to meet workload growth. These staff were not specifically assigned to audit delegated procurements.

The obvious effect of an unaudited delegation is the possibility that through misinterpretation or ignorance of certain regulations, a procurement could be jeopardized or have to be renegotiated at additional cost to the State.

DGS/DT Responsibilities Are Not Fully Met Due to Inadequate Staffing

DGS/DT has the authority to delegate certain TC projects to user departments. Many of the projects are of such size and low risk that delegation to the people who are most concerned with the final product is justified. In our view, DGS/DT has adequately administered their delegated projects. However, DGS/DT has never audited any of their delegated projects.

We found the reason for the lack of auditing to be insufficient staffing at DGS/DT.

The effect of not conducting an audit is not being able to assure compliance to policies and procedures. An audit would provide the opportunity for feedback and education in State policies and procedures.

Future Workloads at DGS/DT May Not Be Met With Current Staff Levels

Previous to AT&T divestiture, DGS/DT interacted with only one vendor. AT&T did most, if not all, of the planning, controlling, and maintenance of the State's TC networks. However, since divestiture, DGS/DT has taken a much greater role in network planning and control which has put new demands on the present staff. DGS/DT is now operating in a field that is becoming increasingly complex both in terms of the number of vendors offering traditional TC services and the range of new offerings that are coming on the market almost daily.

We recommended in Section II that DGS/DT take an even greater role in network planning and control, and that they have full responsibility for providing all the State's TC services. This additional responsibility may significantly increase the DGS/DT's workload in the future.

If this additional workload is not anticipated and new staff added, other necessary and vital functions performed by the existing staff will suffer.

CONCLUSIONS

Additional staff are required to properly manage the IS and TC plans, policies, procedures, and resources within the State.

RECOMMENDATIONS

We have developed five recommendations that will improve the ability of OIT, DGS/DT, and DGS/OP perform their mandates:

- Add additional staff to OIT
- Add additional staff to DGS/OP
- Add additional staff to DGS/DT
- Rotate data processing manager-level personnel through OIT
- Develop an in-service training program for OIT

Recommendation VI-1 - Add Additional Staff to OIT - In coordination with our recommended OIT organization in Recommendation III-1, at least six additional personnel should be added to the Planning and Requirements Unit of OIT, and at least three additional personnel should be added to the Compliance Unit of OIT.

The additional planning and requirements personnel will be needed to staff the expanded planning role we have recommended for OIT. The benefit to the State will be the development of statewide strategic plans and the development of planning methods that can be used by State departments to produce their own IS plans.

The three new compliance personnel should be tasked to ensure that State policies and procedures are being adhered to and

that cost effective systems are being implemented. We recommend these positions be staffed immediately, but concurrent with OIT reorganization.

This recommendation will cost the State $488,890 annually in personnel costs as follows:

- One Data Processing Manager IV
- Two Data Processing Managers III
- Six Data Processing Managers II

Recommendation VI-2 - Add Additional Staff to DGS/OP - At least three additional personnel should be added to DGS/OP specifically for the purpose of conducting audits of delegated procurements.

This recommendation will cost the State $136,850 annually in personnel costs for three staff EDP Acquisition Specialists.

Recommendation VI-3 - Add Additional Staff to DGS/DT - At least three additional personnel should be added to DGS/DT to enhance the planning group which already exists and to perform audits of delegated TC projects. These positions will also be needed to handle the increasing participation of DGS/DT in the data communications arena and advocacy of TC within the State.

Significantly more personnel may be required in future years to handle the implementation of a statewide data network, to meet the increasing user needs for telecommunications services, and to maintain the current networks in a multi-vendor environment (as opposed to the current single-vendor environment).

We recommend that the three new planning positions be staffed immediately, and that DGS/DT forecast their staffing needs and place in the normal BCP process.

This recommendation will cost the State $141,340 annually in personnel costs as follows:

- One Senior Engineer
- Two Manager I

Recommendation VI-4 - Rotate Data Processing Manager Level Personnel through OIT - OIT should establish a job rotation policy for its non-management positions. State DP Managers should be required to serve a stabilized tour at OIT for two years before they can be promoted to the Data Processing Manager III position.

The benefit to the State will be that OIT analysts will all have recent experience in operating IS environments. Likewise, eventually all State data processing managers will have had experience in OIT and will understand the budget process as well as have had the opportunity to look into many other State IS operations. The cross-pollination should have tremendous benefits.

To implement this recommendation will require an expansion of the training and developement transfer program that OIT is already using. Employees should be transferred to OIT for up to two years with the security of knowing their previous job is available, but with the option to transfer elsewhere if they desire.

Recommendation VI-5 - Develop An In-Service Training Program for OIT - OIT should develop policies and procedures to help ensure that OIT staff are technologically current. OIT should consider using formal training programs, seminars, private and other government sector visitations, and consultants as an approach for OIT staff education.

OIT has already implemented much of this recommendation, but the program should be formalized and made an integral part of the rotation program discussed above.

State of California

Memorandum

Date : SEP 25 1986

To : Thomas W. Hayes
Auditor General
660 J Street, Suite 300

From : **Department of Finance**
DIRECTOR'S OFFICE

Subject: Comments on "Evaluation of California's Plans, Policies, and Procedures for Developing and Managing Its Information and Telecommunications Systems"

We have reviewed the draft of the report entitled, "Evaluation of California's Plans, Policies, and Procedures for Developing and Managing Its Information and Telecommunications Systems." We are pleased that the findings of the report confirm our own assessment of the progress that has occurred in California's management of information technology and telecommunications during the past three and one half years.

This Administration has been active in seeking opportunities for employing computer and telecommunications technology to improve agency services while controlling the cost and size of State government. We are convinced that the State must manage its information resources just as it manages other unique and critical resources, and we welcome constructive, independent evaluations of that management. Accordingly, in coming months, we will give thoughtful consideration to the findings and recommendations contained in the report.

The findings and conclusions of the report parallel our own identification of desirable changes in state-level information management practices, and we generally agree with the intent of the individual recommendations. A number of the recommended improvements, such as the creation of guidelines to support the agencies in their information management planning and feasibility study activities, have already been initiated.

We also believe that strategic planning is fundamental to success in deploying information technology throughout State government. Our commitment to strategic planning is reflected in the current State budget where funds have been appropriated to support this planning effort during the next twelve months.

We do have concerns about the specifics of some recommendations, however. For example, we believe the recommended revision of feasibility study requirements may not be practical. Similarly, we question whether it is realistic to require the State's data processing managers to serve a two-year assignment with the Office of Information Technology prior to being eligible for promotion to the Data Processing Manager III level.

Information technology, both data processing and telecommunications, will continue to be given a high priority by this Administration. Our commitment is to provide a carefully-structured framework for information management that is based on sound management principles and that provides a realistic balance between the needs of individual agencies and the need to maintain effective statewide coordination. The findings, conclusions, and recommendations of this report provide valuable insight in support of this commitment.

JESSE R. HUFF
Director of Finance

GEORGE DEUKMEJIAN, GOVERNOR

(916) 323-9493

State and Consumer Services Agency

OFFICE OF THE SECRETARY
915 Capitol Mall, Suite 200
Sacramento, CA 95814

September 26, 1986

Mr. Thomas W. Hayes
Auditor General
Office of the Auditor General
660 J Street, Suite 300
Sacramento, CA 95814

REPORT P-611 - "EVALUATION OF CALIFORNIA'S PLANS, POLICIES, AND PROCEDURES FOR DEVELOPING AND MANAGING ITS INFORMATION AND TELECOMMUNICATIONS SYSTEMS"

Dear Mr. Hayes:

Thank you for providing the Department of General Services the opportunity to respond to the Report P-611 entitled "EVALUATION OF CALIFORNIA"S PLANS, POLICIES, AND PROCEDURES FOR DEVELOPING AND MANAGING ITS INFORMATION AND TELECOMMUNICATIONS SYSTEMS" which was prepared for you by Deloitte Haskins & Sells.

We believe that the policies and procedures now in place provide a sound basis for development of telecommunications systems and we note that the report agrees with our programs by also concluding "that information system and telecommunications policies and operational plans generally promote the cost-effective use of State resources." We also agree with the observation by "By enhancing the current plans, policies, procedures, and resources that manage information and telecommunication procedures in the State, the State can make significant strides towards developing and implementing systems which take advantage of information technology." As in the past, we intend to continue to explore all feasible alternatives which further our existing service delivery capabilities.

The report mentions a number of areas where adjustments to current procedures or staffing are recommended. Many of these items, such as the update of the State Administrative Manual and proposals for staffing changes had been previously recognized by the Department and action was already being taken. However, the remainder of the recommendations which concern coordination, planning, and oversight are expressed in general terms and the report did not provide us with any of the cost/benefit or other specific information which is necessary to substantiate a need for programmatic change in either the planning or oversignt of Department telecommunications functions. Also, in some cases, the recommendations may be beyond the existing statutory authority of the Department. Therefore, we plan to develop further information on these issues before proposing program changes.

If you need further information or assistance on this issue, you may wish to have your staff contact W.J. Anthony, Director, Department of General Services at 445-3441.

Sincerely,

SHIRLEY R. CHILTON
Secretary of the Agency

cc: W.J. Anthony, Director

A. PERSONNEL INTERVIEWED

BANKING

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Harold Doyle
Phyllis Garrett
Charlene Mathias
Richard Ogawa
John Paulus

BOARD OF CONTROL

Joseph Radding

FINANCE/OFFICE OF INFORMATION TECHNOLOGY

Miles Ennis
Steve Kolodney
Ronald Kuhnel
Tony Lee
Phil Misner
Chris Russell

FISH AND GAME

Pete Bontadelli
Donald Hallberg
Stuart Lott
Edward Willis

FRANCHISE TAX BOARD

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Dick Daniels
Mary Fite
Rich Hoffman
Jan Sherwood
Ralph Shoemaker

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Pete Wanzenried

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GENERAL SERVICES/OFFICE OF PROCUREMENT

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Austin Easton
Bob Hoover
Roger Thomas

LEGISLATURE

Jonathon Glidden
David Illig
Robert Jacobson

TEALE DATA CENTER

Dennis Dunnett
David Lema
Jim Wilson

B. DOCUMENTS REVIEWED

AB 808

AB 1119

AB 2074

Automated Budget System Documentation

Department of Banking Miscellaneous Documentation

- Office Automation Study and FSR

Consultant Report - Statewide Electronic Mail System

- Feasibility Report by Arthur Young

Communication Bulletins

Executive Overview - Statewide Telecommunications

Fish and Game Miscellaneous Documentation

- Auditor General Report - Nov 85
- FSR - Log # 1022-84
- Organizational Chart
- Report of Fiscal Systems Task Force
- Strategic Automation Plan

Government Code 14930

Information Hearings - Gwen Moore 21 May

Information Technology in California State Government

Little Hoover Commission Study on Telecommunications

Management Memos

OIT/DT Agreement Letter - May 6, 1985

OIT Documentation Log Files (3)

OIT ISP Processing Instructions

OIT ISP Standard Replies

OIT Oversight and Assistance Unit Handbook

OIT Strategic Implementation Plan - Nov 84

OIT Workload and Flowcharts

OLA Budget Perspectives and Issues - 84/85

OLA Budget Perspectives and Issues - 85/86

OLA Budget Perspectives and Issues - 86/87

OLA Report - Utilization and Management of Information Processing - April 83

Price Book - GDS

SB 562

SB 1395

SB 1395 Roundtable Discussion - Feb 84

SB 1733

SAM - Sections:

- 4500 - Telecommunications Policy
- 4800 - OIT Responsibilities
- 4900 - ISP, including the IMAP which is pending publication; FSR; and PC Policy
- 5001 - EDP Equipment Inventory
- 5100 - EDP Standards
- 5200 - General Procurement Procedures
- 5901 - Disposal of EDP Equipment

Telecommunications Education and Training Program

Telecommunications Letters of Delegation

Telecommunications Miscellaneous Documentation

- Form 20
- Partial Draft Copy of SAM
- Network Maps
- Space Management Agenda
- Organizational Chart

Telecommunications Tactical Plan 85/86 - Draft Proposal

Telecommunications Strategy for State Government

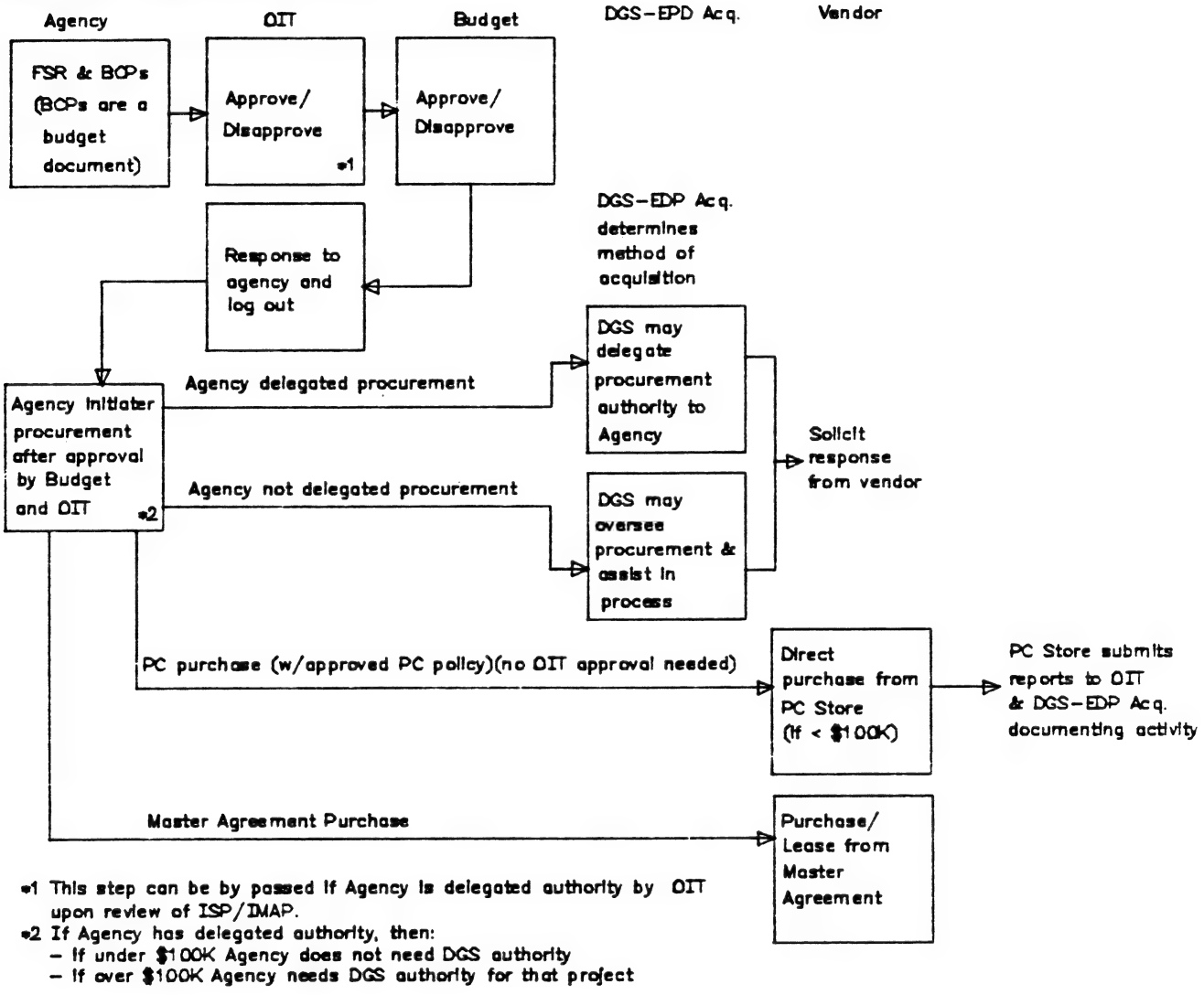
C. PROCESS CHARTS OF THE STATE INFORMATION SYSTEM AND TELECOMMUNICATION MANAGEMENT PROCESS

Appendix C presents flow diagrams for some of the major processes the State follows to manage and procure information systems and telecommunications. We graphically documented these processes to develop a clear understanding of State operations and analyze the effectiveness and efficiency of these processes in meeting the State's needs.

The processes presented in this Appendix include:

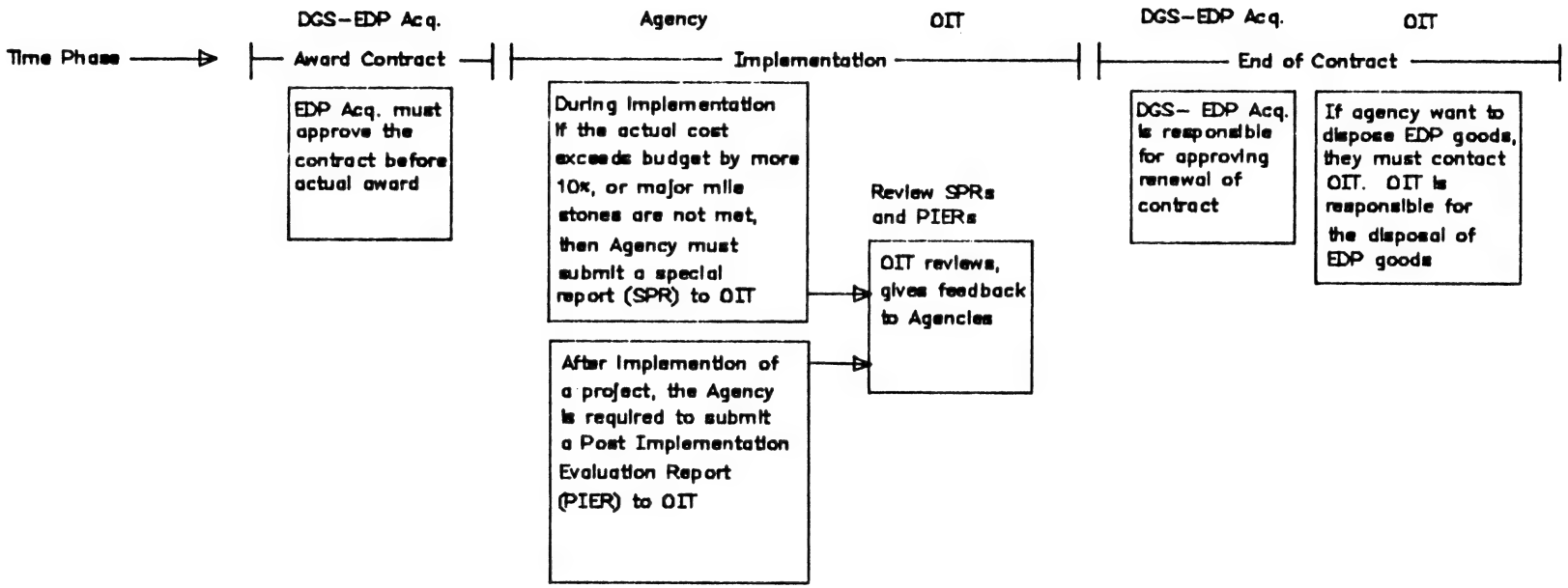
- Overview of the Acquisition Process
- Major steps in a Competitive Procurement
- Personal Computer Policy (for delegated procurement authority)
- Acquisition of Personal Computers
- Flowchart of FSR Processing
- Flowchart of SPR Processing
- Flowchart of BCP Processing
- Flowchart of Personal Computer Policy Processing

OVERVIEW OF ACQUISITION PROCESS

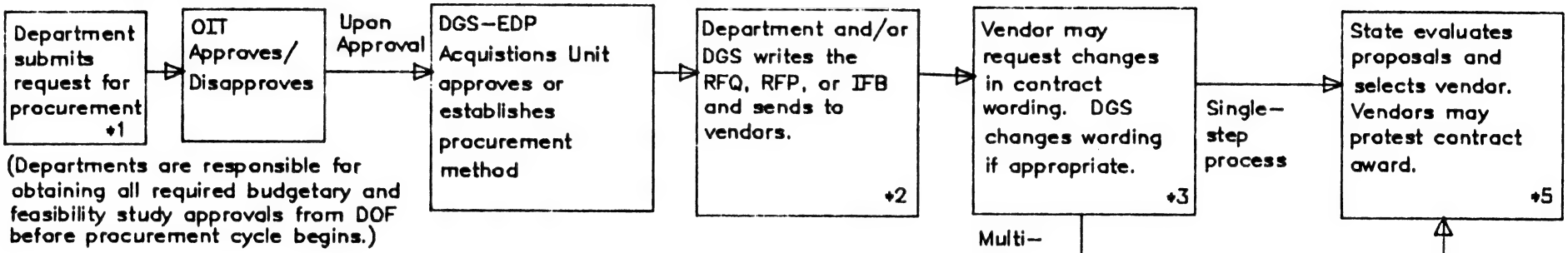


*1 This step can be by passed if Agency is delegated authority by OIT upon review of ISP/IMAP.

*2 If Agency has delegated authority, then:
- If under $100K Agency does not need DGS authority
- If over $100K Agency needs DGS authority for that project


DGS–EDP Acq.
Agency
OIT
DGS–EDP Acq.
OIT
Time Phase
Award Contract
Implementation
End of Contract
EDP Acq. must approve the contract before actual award
During Implementation If the actual cost exceeds budget by more 10%, or major mile stones are not met, then Agency must submit a special report (SPR) to OIT
Review SPRs and PIERs
OIT reviews, gives feedback to Agencies
After Implemention of a project, the Agency is required to submit a Post Implementation Evaluation Report (PIER) to OIT
DGS– EDP Acq. is responsible for approving renewal of contract
If agency want to dispose EDP goods, they must contact OIT. OIT is responsible for the disposal of EDP goods

MAJOR STEPS IN A COMPETITIVE PROCUREMENT
(Note: This process does not include delegation of procurement authority)



(Departments are responsible for obtaining all required budgetary and feasibility study approvals from DOF before procurement cycle begins.)

•1 The department must submit an FSR, technical and budget approval. May require a BCP. Project must be included in department IMAP.

•2 DGS selects the procurement method appropriate for the situation. If the contract is > $100,000, the state must use a formal, multi–step procurement process.

•3 Vendor may protest the RFP if they feel that the requirements preclude them from bidding. Vendor may also request changes in the requirements presented in the RFP. Any changes made require an addendum to the procurement document.

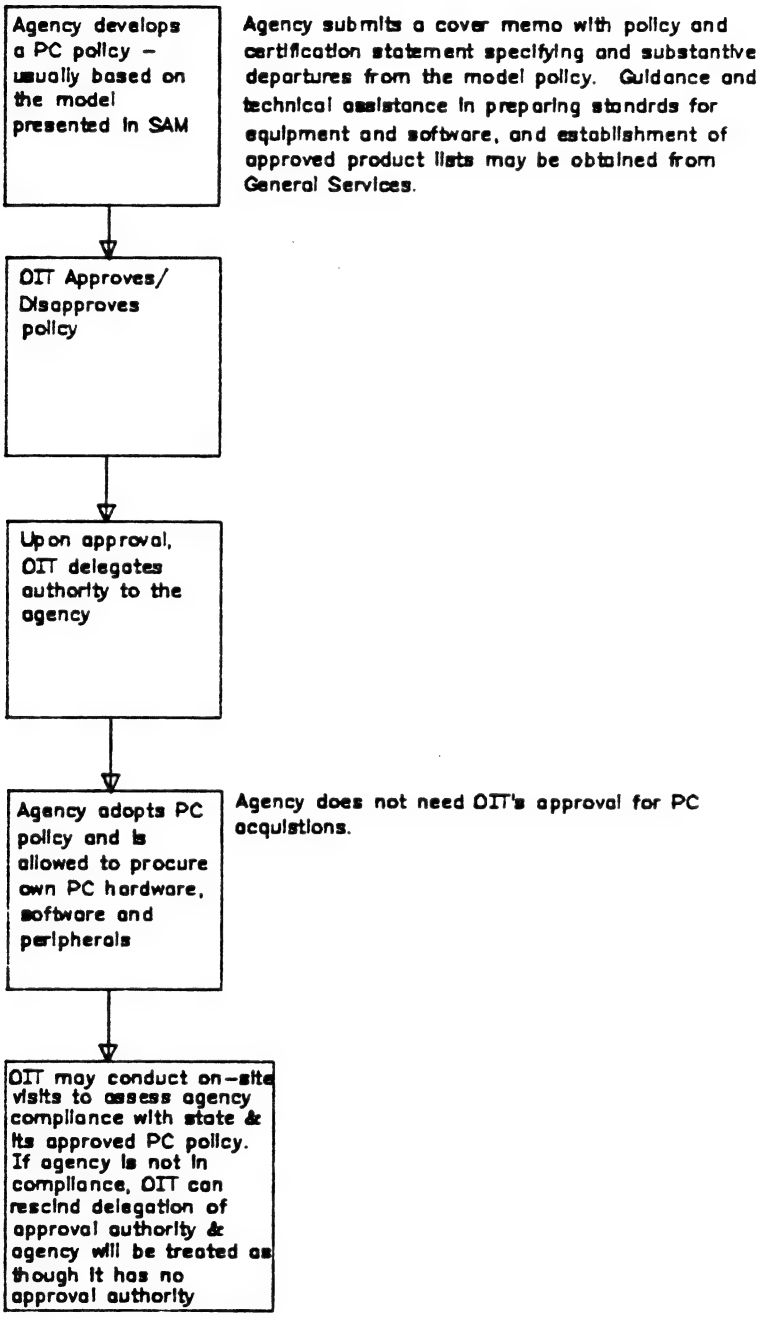
•4 The State may taylor the specific procurement to meet the needs of each procurement. The Draft Bid is to be included for all EDP procurements over $100K. The multi–step procedure allows the State to review and discuss with each vendor an earlier version of his response before it becomes unalterable and irrevocable.

•5 Vendors may protest a contract award. If the contract is < $100K, the DGS will mediate the protest; if the contract is > $100K, then the Board of Control will mediate.

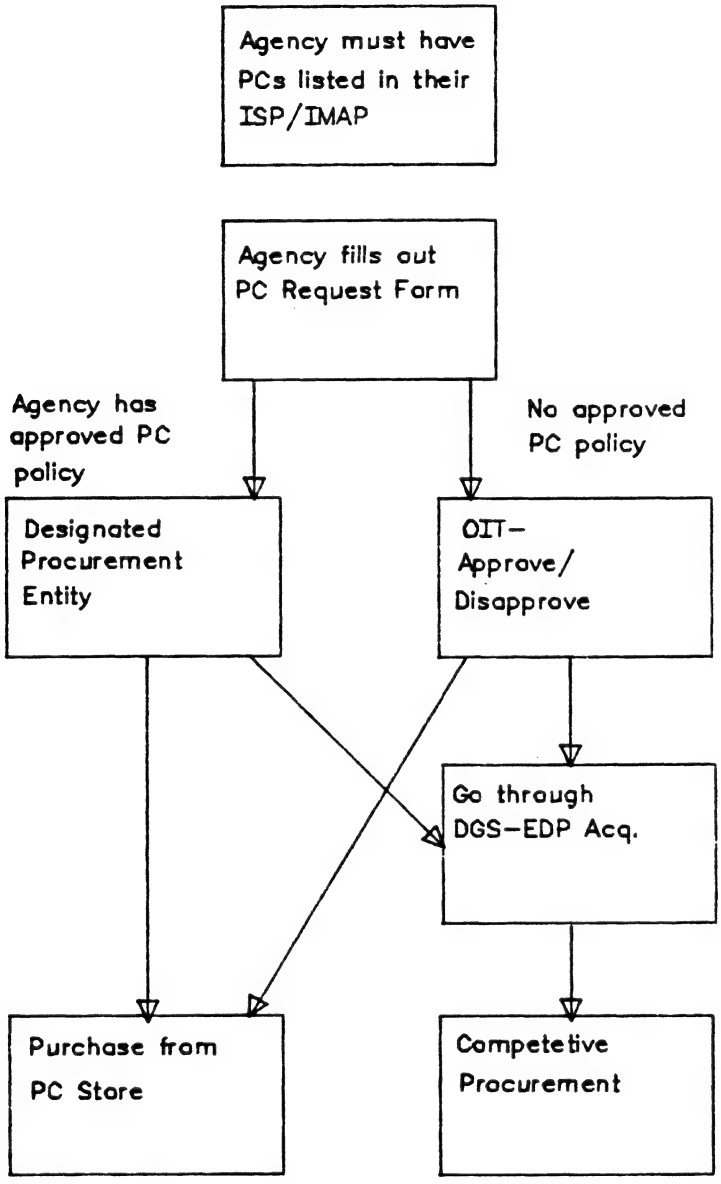
Source: Based on SAM, section S209 and S216.95.

PERSONAL COMPUTER POLICY
Delegated Procurement Authority

OIT may delegate authority to procure personal computers (PCs) to agencies. Agencies must first adopt a comprehensive policy to govern the justification and use of PCs. The steps involved are:

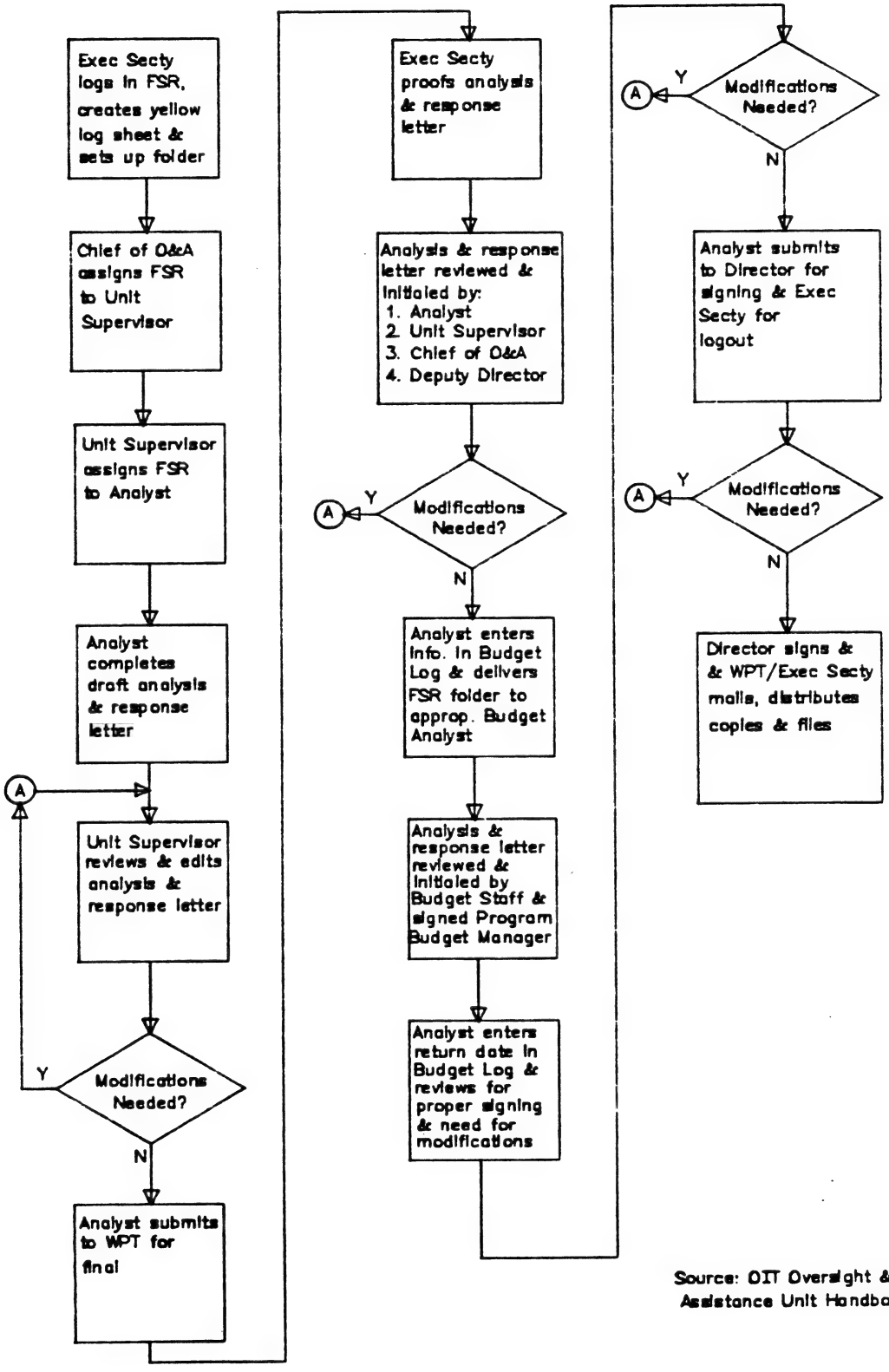


ACQUISITION OF PCs



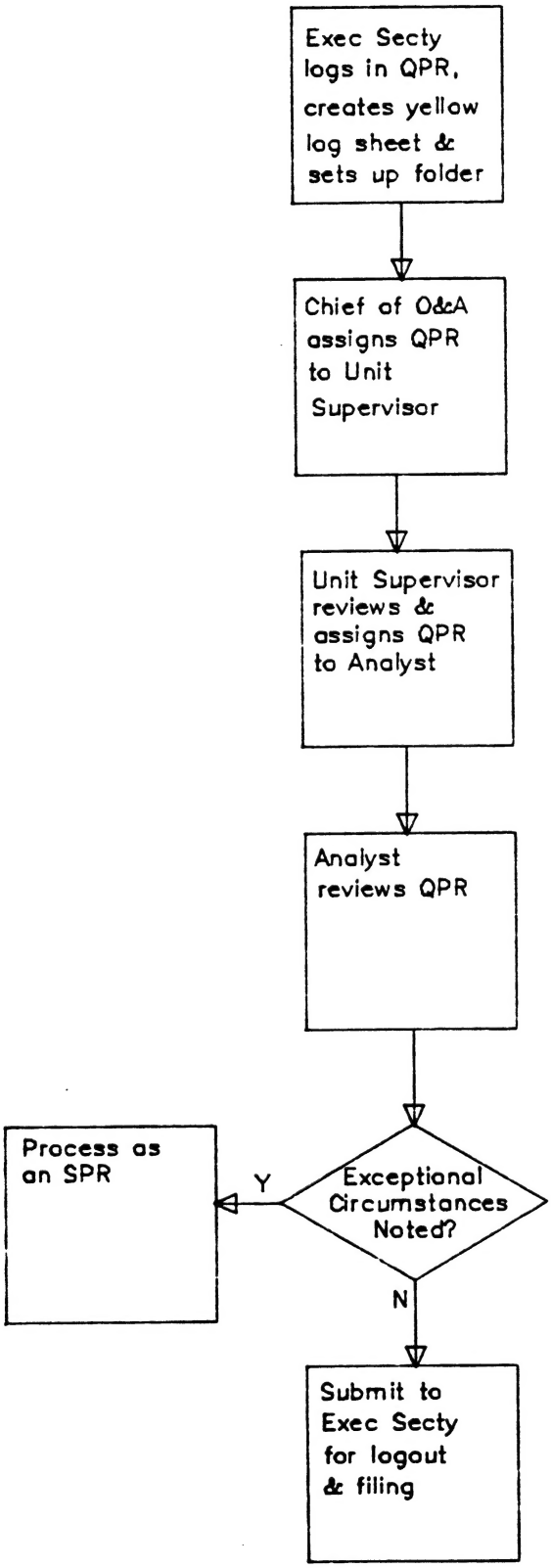
FLOWCHART OF FSR PROCESSING

(The same processing steps also apply to SPRs, PIERs, IMAPs, and Project Approval Letters)

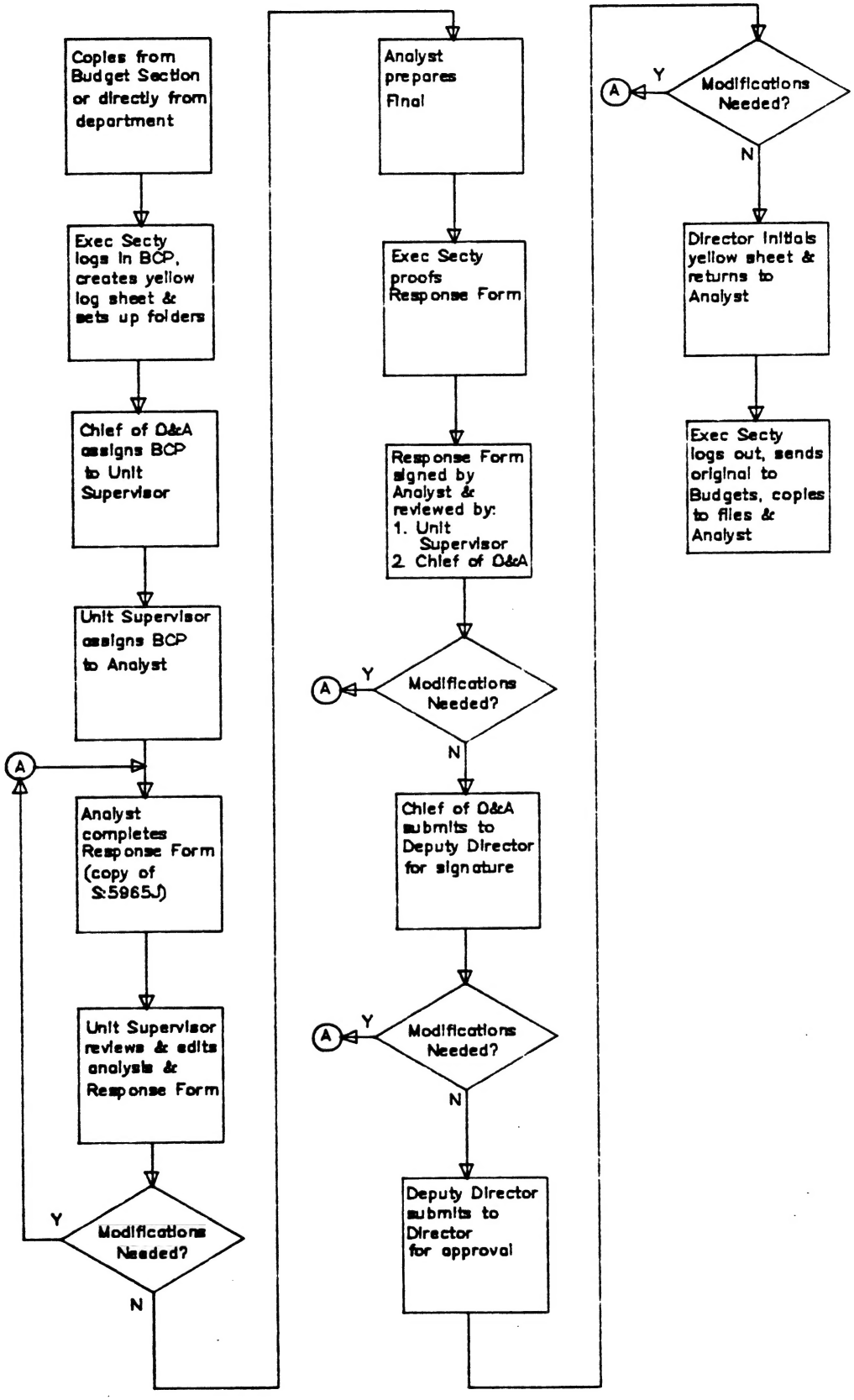


Source: OIT Oversight & Assistance Unit Handbook

FLOWCHART OF QPR PROCESSING

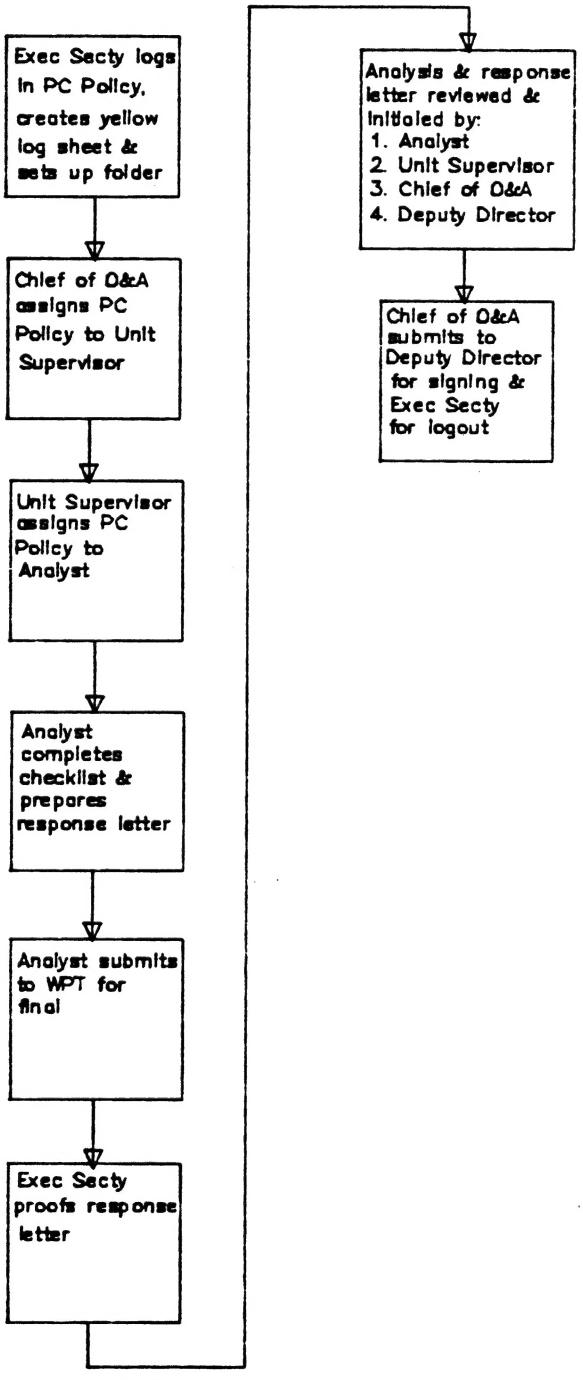


FLOWCHART OF BCP PROCESSING



FLOWCHART OF PC POLICY PROCESSING

(The same processing steps also apply to EDP Equipment Disposal Requests and Personnel Requests)



cc: Members of the Legislature
Office of the Governor
Office of the Lieutenant Governor
State Controller
Legislative Analyst
Assembly Office of Research
Senate Office of Research
Assembly Majority/Minority Consultants
Senate Majority/Minority Consultants
Capitol Press Corps